



FLIGHT



First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

No. 387. (No. 21, Vol. VIII.)

MAY 25, 1916.

[Weekly, Price 1d.
Post Free, 1½d.]**Flight.**

Editorial Office: 44, ST. MARTIN'S LANE, LONDON, W.C.
 Telegrams: Truditur, Westrand, London. Telephone: Gerrard 1828.
 Annual Subscription Rates, Post Free.

United Kingdom ... 6s. 6d. Abroad 11s. 6d.

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EDITORIAL COMMENT.

The Aviation "Tragedy."

WE passed without comment last week the facts to hand, as we were going to press, attending the opening of the Air Service Inquiry, when the member for East Herts failed to put in an appearance, as without the explanation of Mr. Pemberton Billing, in response to whose demand the Committee was set in motion for the purpose of investigating the facts of his charges of "murder," it would have been invidious to have indulged in problematical criticism. Other public attackers of the Air Service were not so intimately concerned with the main issue of the inquiry, and therefore their reasons for remaining away from the investigation are hardly upon the same plane as "P.B.'s." and therefore called for no particular criticism. The subsequent correspondence sent to the Press by Mr. Billing appears to us, under all the circumstances surrounding his vehement utterances, to bear upon the face of it but a poor justification for refusing to "face the music." To decline the invitation to give evidence, upon the plea that the R.N.A.S. was not to be included in the inquiry was, to say the least of it, a fatal mistake. According to "P.B.'s." own charges, he had plenty of cases in the R.F.C. to put forward. When he had finished with these, following upon his formal protest in regard to the cases of the R.N.A.S. being excluded, it would have been time enough for action, if it were still

deemed necessary, to be taken upon the Naval shortcomings. But if a half of Mr. Billing's accusations attaching to the R.F.C. had been brought home, there would have been little necessity to have gone on beating a dead horse. He would by then have had the public with him in full cry, and would have justified in full his return to Parliament and to a certain extent his questionable methods of procedure. As it is, by his remaining away upon so weak a pretext, well—

On the other hand, the decision of the Committee not to allow counsel to take part in the proceedings was to our way of thinking a sign that the Government had doubts as to the strength of their case. To pit a layman, however astute he may be, against a trio of legal luminaries is hardly fair fighting, although probably the view was held that as it was simply a case of investigating already ascertained and vouched for facts, there was no room for the quibbling and legal acrobatic performances which are such a strong feature of ordinary law court practice, where counsel's duty appears chiefly to be to upset a truthful and awkward witness's statement. Nevertheless, for the sake of keeping the inquiry clean both sides, it would have been more in accordance with the Briton's idea of cricket, had the participation of counsel, if desired, been sanctioned. Further, by deliberately refusing to include the R.N.A.S. in the inquiry, a further sign of weakness was displayed, we think, by the advisers of the Government. If there is anything in the charges as promulgated, the Government should be the first to court complete investigation. If there is nothing in the charges, then why should there be the slightest hesitation in letting the R.N.A.S. be bracketed into the scope of the Committee's investigation? There is no room, in a thing like this, to shirk the main issue by a mere quibble. The Government could have well afforded to have given this concession, and if their case as to the alleged facts is as strong as is claimed by them in the House, they would have scored all the more heavily against the detractors of the administration of the Air Services. Moreover, it is a very doubtful point whether, taking under review the debates as a whole, the demand for the inclusion of the Naval side was not fully justified. Whichever way it is looked at, however, the outcome is highly unsatisfactory. From Mr. Billing's point of view it must more than ever emphasise the condemnation of the methods adopted by him whereby he has ostracised all sympathy from himself to such an extent that scarcely a serious word of protest was forthcoming in the House as to the narrowing down of the inquiry to the R.F.C., the final touch being given by

that fatal Parliamentary weapon—a count-out. The pity of it all is that whilst there is no doubt much more direct public interest has been focussed upon the trend of aviation in the war, and the creation of a proper Air Department has been brought much nearer, through the rousing up brought about by the recent agitation, “P.B.” seems like missing most of the kudos and benefit attaching thereto, and to that extent he has our sympathy. That the same result and even more could have been obtained by more reasoned and well-balanced methods, under the circumstances of his *début* into the Parliamentary world, there is little question. But for the regrettable consequences as they are, he has but himself to thank for having been so easily led astray by certain of his “nice new friends” with their rabid and poisonous advice. The voice was the voice of Billing, but— Unfortunately, in its reflex action, it has in a way the making of a “tragedy” for the cause of aviation, but this outcome we devoutly hope will be after all avoided. There are now so many level-headed men who are taking a hand in aerial development, that it will take even more than the events of the past few weeks to stem for an instant the progress of this already great industry. But that the reverse is not the case, is hardly the fault of certain irresponsible advocates who have proclaimed themselves so strenuously as the champions and saviours of all that is of the air. A last opportunity offers Mr. Billing the chance of redeeming his position in the eyes of the House and of the public by attending the adjourned meeting of the Committee of Inquiry to-day (Thursday) and making the best he can of his bargain. That he was overwrought when he bandied with the word “murder” most people are prepared to acknowledge. He has but to prove something much less than is embodied in his unsportsmanlike accusation to win back to himself a large measure of lost sympathy. By purging himself by frank confession of the misuse of the English language, he will lose no man’s esteem, so long as he shows reasonable excuse for his serious charges of past mal-administration. Clearly from the Prime Minister’s short reply on Monday as to the non-expansion of the terms of reference to the R.N.A.S., Mr. Asquith is prepared to abide by any facts that can be produced in connection with the R.F.C., and this, as we have already pointed out, should more than suffice for attaining the object which has led up to the present tight corner.

That there have been mistakes—perhaps pardonable in many cases—in the past is admitted. But the one big mistake was, as has been hammered in so often, the inability to earlier recognise the vital part which aviation was to play in this war and the future of the world. Fortunately other nations were not thoroughly convinced sufficiently long in advance either to give them any undue advantages, except Germany in regard to Zeps. And here they have distinctly scored, independently of any

opinion as to the legitimacy of the raids over this country. That most of these mistakes have now been recognised here is equally certain, and they are being gradually set right. There is all the more reason, therefore, why mistakes should be admitted on both sides.

Those on the Government side show perhaps too much disposition to claim that there is no real ground for criticism either past or present against their work. Facts in this respect, however, point to the contrary. After allowing every latitude, the neglect to appreciate air tactics at their full value before and for some time after the war is clearly apparent, and the discussions in Parliament have served a national purpose in bringing the more glaring shortcomings into prominence. That the military air situation was saved at the opening of the war—and saved magnificently for this country—is entirely due to the British flying *personnel*, which made the best of what was available in material, what time the administration this side was pulling itself together to tackle the problem in a spirit worthy of the country.

What is now wanted is to get done with this Inquiry Committee as quickly as possible and release one and all concerned—especially such men as General Henderson—for more immediately important work for the nation, and let the Air Board under its new *régime* get to work with a will, so that no more time is wasted in disputes and petty jealousies which militate so horribly against efficiency. Although the full composition of the Air Board is not yet announced, there is no reason why the new arrangement should not pan out successfully, by way of a makeshift. All that is required is the goodwill to make good, the crux of the whole position then resting, of course, upon the ability of Lord Curzon to attach to himself the right men. To want of judgment hitherto in this direction must be attributed most of the complications which have obsessed the Air Services. If the guiding principles in developing the best for the British Air Service are founded upon the views of the future expressed by Mr. Balfour in regard to the Navy, in his recent interview for the benefit of neutrals, there will be no fear of it being second air place for this country in a very short time. All that need be done is to bracket air-power with sea-power to the Anglo-Saxon ideals wherever expressed by Mr. Balfour, and the world will have for the next few hundred years the surest guarantee of peace that the greatest pacifist could demand.

By this we do not mean that we are enamoured of the arrangement whereby the Board are still without any real power to act, and we are afraid, as at present constituted, that any differences of opinion will have to be reviewed by the same men sitting on the Board in their individual departments as advisers to the Government, and so the same old *cul-de-sac* stopping action being taken may arise. We sincerely hope it will not work out thus in practice.

THE ROLL OF HONOUR.

THE following casualties have been officially announced by the War Office:—

Killed.

Captain A. R. Tillie, Cameronians (Scottish Rifles) and R.F.C.
Lieutenant E. J. Amor, Middlesex Regt. and R.F.C.
Lieutenant T. Jones, Canadian A.S.C., attached R.F.C.
3994 1st Class Air-Mechanic S. Catton, Royal Flying Corps.

Previously reported Missing, now reported Killed.

Second Lieutenant W. G. Lawrence, Oxford and Bucks L.I. and R.F.C.

Died.

Z-178 Air-Mechanic J. H. Cowie, Royal Flying Corps.

Previously reported Missing, now reported Missing, believed Killed.

Lieutenant J. R. Dennistoun, Canadian Divl. Cyclist Co., attached R.F.C.

Previously reported Killed, now reported Missing, believed Killed.

Second Lieutenant E. G. Ryckman, Royal Flying Corps.

Wounded.

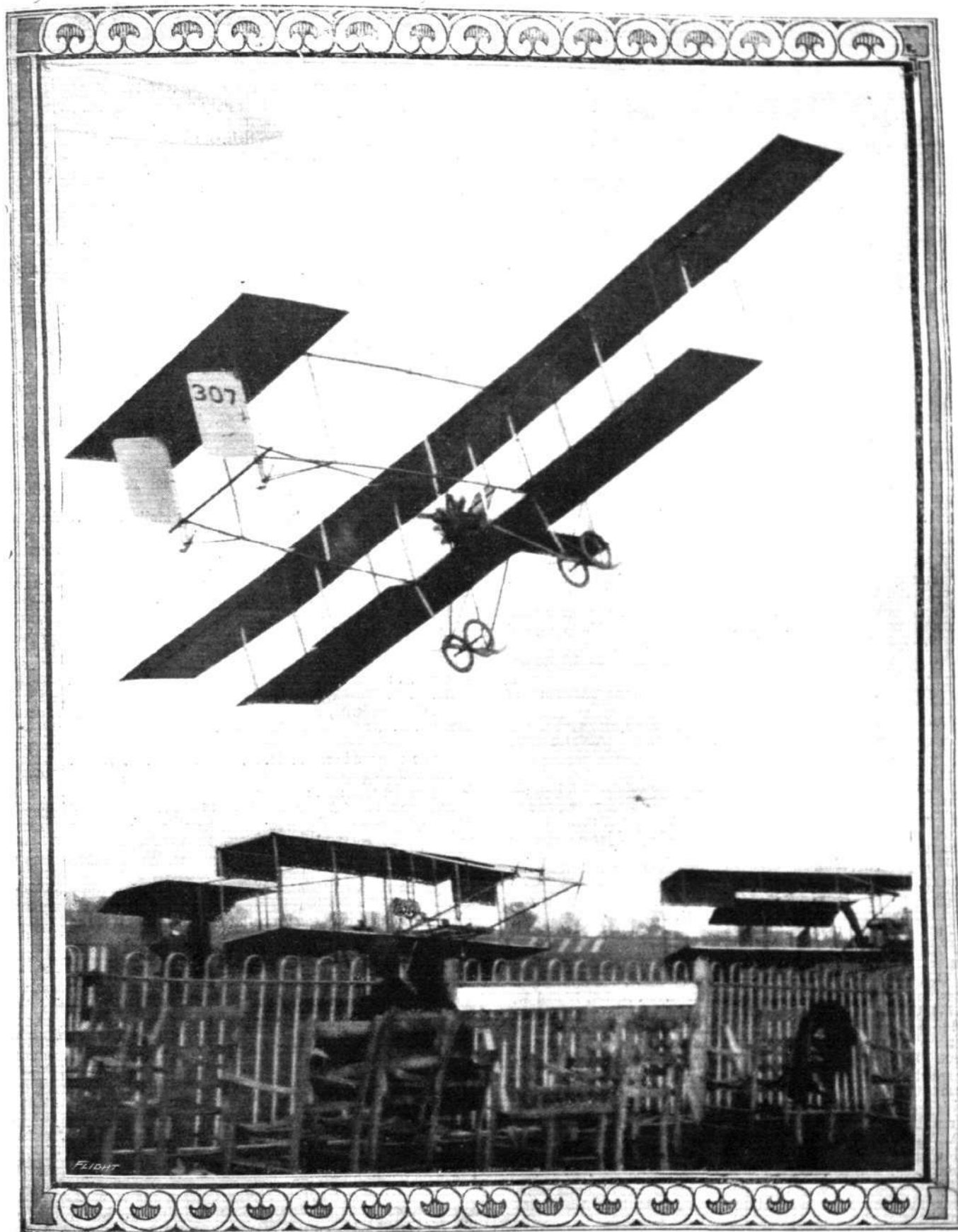
Captain E. W. Forbes, R. Warwick Regt., attached R.F.C.
Lieutenant A. L. Findlay, Royal Flying Corps.
Second Lieutenant R. M. Chaworth-Musters, Leicester Regt. and R.F.C.

Previously reported Missing, now reported Wounded and a Prisoner.

Second Lieutenant D. B. Gayford, R. W. Surrey Regt. and R.F.C.

Missing.

Captain D. Grinnell-Milne, R. Fusiliers and R.F.C.



AT HENDON.—Mr. C. Grahame-White on the new three-seater passenger 'bus.

The British Air Service

"PER ARDUA AD ASTRA"

UNDER this heading are published each week the official announcements of appointments and promotions affecting the Royal Naval Air Service and the Royal Flying Corps (Military Wing) and Central Flying School. These notices are not duplicated. By way of instance, when an appointment to the Royal Naval Air Service is announced by the Admiralty it is published forthwith, but subsequently, when it appears in the LONDON GAZETTE, it is not repeated in this column.

Royal Naval Air Service.

THE following appeared among the Admiralty announcements of the 16th inst. :—

Lieut.-Commander C. L. Kerr, D.S.O., to "Attentive," additional. May 15th.

The undermentioned have been entered as Probationary Flight Sub-Lieutenants (temporary), with seniority as follows, and all appointed to "President," additional, for R.N.A.S.: W. H. Richardson (Sub-Lieutenant, R.N.R.), May 15th; R. J. Paul, S. D. Scott, J. A. Piquet, W. M. Lusby, and G. C. B. Cotterell, all May 21st.

The following appeared among the Admiralty announcements of the 17th inst. :—

A. E. Siddons-Wilson entered as Sub-Lieutenant (temporary) (R.N.V.R.), with seniority of May 16th, and appointed to "President," additional, for R.N.A.S.

The following appeared among the Admiralty announcements of the 18th inst. :—

Temporary Sub-Lieut. (R.N.V.R.) J. E. Brewin, entered as Probationary Flight Sub-Lieutenant, for temporary service, with seniority of May 15th, and reappointed to "President," additional, for R.N.A.S. (temporary Commission as Sub-Lieutenant R.N.V.R. terminated).

Midshipman (temporary R.N.R.) W. V. Simons, entered as Probationary Flight Sub-Lieutenant (temporary), with seniority of May 20th, and appointed to "President," additional, for R.N.A.S.

J. B. Daniell, entered as Probationary Flight Sub-Lieutenant (temporary) with seniority of April 9th, and appointed to "President," additional, for R.N.A.S.

J. M. Mapplebeck, entered as Probationary Flight Sub-Lieutenant (temporary), with seniority of May 22nd, and appointed to "President," additional, for R.N.A.S.

E. B. Falkner and C. R. D'Arcy, both granted temporary commissions as Lieutenant (R.N.V.R.), with seniority of May 17th, and appointed to "President," additional, for R.N.A.S.

V. L. Edwards, granted temporary commission as Lieutenant (R.N.V.R.), with seniority of May 17th.

The following appeared among the Admiralty announcements of the 19th inst. :—

The following temporary entry has been made with seniority of May 16th—Engr. Sub-Lieut. F. Squirrell (Air-Mechanic, R.N.A.S.).

Royal Flying Corps (Military Wing).

The following appeared in the *London Gazette* of the 16th inst. :—

Equipment Officers.—From Assistant Equipment Officers, and to be Temporary Captains whilst so employed, May 1st, 1916: Lieut. A. E. Snape, Special Reserve; Second Lieut. C. Jarrott, Special Reserve.

Flying Officers.—Second Lieut. H. A. Wood, Special Reserve; April 18th, 1916. May 2nd, 1916: Lieut. W. A. Buchanan, Conn. Rang., and to be seconded; Lieut. G. S. Bateman, 39th (Res.) Can. Inf. Bn.; Temporary Second Lieut. H. F. Brailey, S. Staff. R., and to be transferred to the General List.

Flying Officers (Observers).—April 29th, 1916: Second Lieut. (Temporary Lieutenant) J. McKelvie, R.E. (T.F.); Temporary Lieut. W. G. B. McKechnie, Motor Machine Gun Serv., and to be transferred to the General List; Second Lieut. A. W. Smith, L'pool R. (T.F.), Second Lieut. G. F. Knight, Devon R., Special Reserve, and to be seconded; Temporary Second Lieut. A. F. Organ, Gen. List. May 1st, 1916: Capt. J. Everidge, Surr. Yeo. (T.F.); Lieut. L. Eardley-Wilmot, Leic. R., Spec. Res., and to be seconded; Second Lieut. P. F. J. Kent, 3rd D.G., and to be seconded; Temporary Second Lieut. W. K. Sutton, R. Sussex R., and to be transferred to the General List; Second Lieut. A. J. G. Styran, R.A., and to be seconded; Second Lieut. H. B. H. Cox, R.A., and to be seconded; Second Lieut. C. R. Robbins, R.A., and to be seconded; Second Lieut. R. A. Way, Wilts. R., and to be seconded.

Balloon Officer.—Temporary Second Lieut. G. T. Beale relinquishes his commission on appointment to a Cadetship; April 27th, 1916.

The following appeared in a supplement to the *London Gazette* issued on the 17th inst. :—

N.C.Os. to be Second Lieutenants for service in the Field.

R.H. and R.F.A.—Sergt. L. S. Dell, from R.F.C., and to be seconded for duty with the R.F.C.; April 16th.

R. Dublin Fusiliers.—Acting Sergt.-Major M. Keegan, from R.F.C., and to be seconded for duty with the R.F.C.; April 23rd.

Memoranda.—N.C.Os. and men to be Temporary Second Lieutenants for duty with the R.F.C.: Sgt. A. Fraser, from A.S.C. (Mech. Trans.); Sgt. W. G. Clifford, from 19th Canadian Inf. Bn.; Cpl. J. G. Robertson, from 1st Canadian Mid. Rif. Bn.; Cpl. S. Wilkins, from 1st Canadian Divl. S'g. Co.; Pte. C. Arkle, from R.E.; Pte. E. Sheffield, from A.S.C.; April 9th; Staff-Sgt. E. M. Roberts, from 2nd Canadian Divl. Supply Col.; 1st Class Air Mechanic A. G. Powell, from R.F.C.; Second Cpl. A. K. Hall, from R.E. (T.F.); 2nd Class Air Mechanic A. Hughes, from R.F.C. (April 16th); Staff Sgt. J. Mitchell, from Hd. Qrs., 5th Canadian Inf. Brig. (April 23rd).

The following Captains R.F.C., Special Reserve, to be Temporary Majors without pay or allowances of that rank while specially employed: J. T. C. Moore-Brabazon and T. V. Smith; May 18th.

Privates to be Temporary Second Lieutenants for duty with the R.F.C.: L. A. Davis, from W. York. R. (T.F.), D. S. Allan, from Inns of Court O.T.C., E. A. Pope, from Inns of Court O.T.C., G. Ross-Soden, from A.S.C.; May 13th.

Squadron-Commander.—Capt. G. B. Rickards, S.R., from a Flight Commander, and to be Temporary Major whilst so employed; May 1st.

Equipment Officer.—Second Lieut. W. J. B. Curtis, S.R., from an Assistant Equipment Officer, and to be Temporary Captain whilst so employed; April 28th.

Flying Officers.—Lieut. H. MacD. O'Malley, S.R., from an Assistant Equipment Officer; May 1st, but with seniority from April 28th, 1915. Lieut. A. T. Williams, R.W. Kent R., and to be seconded; Second Lieut. L. P. Watkins, S.R.; May 3rd. Second Lieut. F. H. Whiteman, S.R.; Second Lieut. J. E. Rettie, S.R.; Second Lieut. J. H. T. Letts, Linc. R., and to be seconded; May 4th. Lieut. M. W. Thomas, R.A., from a Flying Officer (Observer), and to be seconded; May 3rd.

Assistant Equipment Officers.—Temporary Second Lieut. J. D. Drysdale, General List; Second Lieut. E. McEvoy, Oxf. and Bucks L.I.; May 2nd. Second Lieut. A. Champion, S.R.; Second Lieut. A. R. Thomas, S.R.; May 9th. Temporary Second Lieut. H. N. Charles, R.A., and to be transferred to General List; Second Lieut. J. E. Wight, S.R.; May 15th.

Supplementary to Regular Corps.—Second Lieutenants (on probation) confirmed in rank: H. A. Wood and J. E. Wight.

The following appeared in a supplement to the *London Gazette* issued on the 18th inst. :—

Memoranda.—Temporary Second Lieutenants to be Temporary Lieutenants whilst employed with the R.F.C.; April 1st, 1916: G. R. Moser, R. G. H. Adams, S. E. Adams, I. P. H. Preston, G. L. Sly, S. A. Meller, H. H. Watkins, W. E. Hicks-Ussher, H. C. Smith and E. D. Johnson.

Supplementary to Regular Corps.—Second Lieut. (on probation) Christopher John Hallward relinquishes his commission, May 8th, 1916. Second Lieut. (on probation) L. P. Watkins is confirmed in his rank.

To be Second Lieuts. (on probation): Harold J. de C. Moore and Frederick B. Buiton, May 8th, 1916.

The following appeared in the *London Gazette* of the 19th inst. :—

Squadron-Commanders, from Flight-Commanders, and to be Temporary Majors whilst so employed; May 1st, 1916: Capt. K. P. Atkinson, R.A., Capt. C. C. Wigram, Special Reserve, Capt. C. E. C. Rabagliati, Yorks. L.I.

Flight-Commanders, from Flying Officers, and to be Temporary Captains whilst so employed.—Lieut. G. A. Porter, R.A. (since died of wounds received in action); Nov. 17th, 1915. May 10th, 1916: Lieut. R. H. Mayo, Special Reserve, Second Lieut. H. G. Salmond, Special Reserve, Second Lieut. W. J. C. Kennedy-Cockran-Patrick, Rifle Brig.; May 14th, 1916.

The following appeared in a supplement to the *London Gazette* issued on the 20th inst. :—

Flight-Commanders, from Flying Officers, and to be Temporary Captains whilst so employed.—Second Lieut. J. Latta, Special Reserve; April 24th, 1916. April 30th, 1916: Lieut. D. A. C. Symington, Special Reserve; Second Lieut. J. O. Andrews, R. Scots. May 1st, 1916: **From Flying Officers.**—Capt. A. K. H. O'Brien, 2nd D.G., Special Reserve; Capt. K. E. Kennedy, Can. Local Forces; Capt. A. S. M. Summers, 19th Hrs.; Capt. F. S. Barnwell, Special Reserve; Capt. V. A. Albrecht, Manch. R.

From Flying Officers, and to be Temporary Captains whilst so employed.—Lieut. R. R. Orr-Paterson, Special Reserve; Lieut. C. D'A. E. W. Reeve, Suff. R.; Second Lieut. G. H. Birley, R. W. Surr. R. (T.F.); Second Lieut. G. Mountford, N. Staff. R. (T.F.); Temporary Second Lieut. H. S. Powell, General List; Second Lieut. L. Porter, Special Reserve; Lieut. H. MacD. O'Malley, Special Reserve; May 2nd, 1916. May 7th, 1916: Temporary Second Lieut. G. B. Ward, General List; Temporary Second Lieut. J. T. Rodwell, General List.

Flying Officers.—May 4th, 1916: Second Lieut. H. C. Mainham, Suss. Yeo. (T.F.); Second Lieut. E. F. Allen, Special Reserve; Second Lieut. I. L. Knight, Special Reserve. Capt. L. Prickett, R.A., from a Flying Officer (Observer), May 5th, 1916.

Memorandum.—Pie. Arthur L. Dunstan, from A.S.C., to be Temporary Second Lieut. for duty with the R.F.C.; May 13th, 1916.

Supplementary to Regular Corps.—Second Lieutenants (on probation) confirmed in their rank: E. F. Allen, J. E. Rettie, R. J. Bennett, J. A. Coats and E. Stokes.

To be Second Lieutenants (on probation); May 13th, 1916: William L. Hay, Donald H. Glasson, Alfred D. Pocock, Thomas R. Hancock; Dudley E. Nicolle, William Buckingham, Edward E. E. Pope, Reginald E. Buckingham, Cyril L. L. C. Brock, James Fairbairn and Eric J. Henderson.

The following appeared in a supplement to the *London Gazette* issued on the 22nd inst.:—

Equipment Officers.—May 8th, 1916: Temporary (Qr.-Mr. and Honorary Lieut. A. G. Murphy, and to be Temporary Captain whilst so employed.

From Assistant Equipment Officers, and to be Temporary Captains whilst so employed.—Qr.-Mr. and Honorary Lieut. J. H. Wilford. Lieut. H. S. Ebben (Special Reserve).

HONOURS.

More Honours for R.F.C. Officers.

In a special supplement to the *London Gazette* issued on the 16th inst. it was announced that His Majesty the King had been graciously pleased to confer the Military Cross on the undermentioned officers in recognition of their gallantry and devotion to duty in the field:—

Second Lieutenant ALFRED DE BATH BRANDON,
Royal Flying Corps (Special Reserve).

For conspicuous gallantry and skill in dropping bombs on a Zeppelin at night.

Second Lieutenant (Temporary Captain) HUGH VIVIAN
CHAMPION DE CRESPIGNY, Suffolk Regt. and R.F.C.

For conspicuous gallantry and skill, notably when he attacked five enemy machines over the enemy's lines. He drove away one and brought another to the ground badly hit. His own machine was then crippled by the fire of the remaining three, but after emptying one more drum at them he brought his machine down safely in our lines.

Second Lieutenant WILLIAM JOHN CHARLES KENNEDY-
COCHRAN-PATRICK, Rifle Brigade and R.F.C.

For conspicuous skill and determination. He climbed and attacked an enemy machine at 14,000 feet, and, although he failed in his first and second attacks, he went for it again a third time, shot both pilot and observer and brought it down. He followed it down and landed alongside.

THE FLYING SERVICES FUND—ADMINISTERED BY THE ROYAL AERO CLUB.

The Flying Services Fund has been instituted by the Royal Aero Club for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependants of those who are killed.

The Fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers, and men.

Forms of application for assistance can be obtained from the Royal Aero Club, 166, Piccadilly, London, W.

Subscriptions. £ s. d.
Total subscriptions received to May 16th, 1916... 10,653 13 10
Mrs. C. de Beauvoir Stocks (Third contribution) 2 2 0

Flying Officers.—Capt. T. Mapplebeck, L'pool R., Special Reserve, and to be seconded; May 5th, 1916. May 6th, 1916: Capt. G. B. Fraser, 2nd R., King Edward's Horse, Special Reserve, and to be seconded. Second Lieut. (Temporary Lieut.) A. J. Carlow, Highland Cyclist Bn. (T.F.). Second Lieut. E. D. Atkinson, Ind. Army Reserve of Officers. Temporary Second Lieut. L. F. Forbes, Shrops. L.I., and to be transferred to the General List. Second Lieut. R. J. Bennett, Special Reserve. Second Lieut. J. A. Coats, Special Reserve. *From Flying Officers (Observers).*—Lieut. H. B. Davey, N. Staff. R. (T.F.). Second Lieut. E. Robinson, R.A. Second Lieut. A. M. Vaucour, R.A.

Flying Officers (Observers).—Second Lieut. C. L. Bullock, Rif. Brig., Special Reserve, and to be seconded; March 1st, 1916. Temporary Second Lieut. J. A. Barton, Hamps. R., and to be transferred to the General List: April 1st, 1916. May 4th, 1916: Lieut. G. C. Pirie, Sco. Rif., Special Reserve and to remain seconded; Lieut. R. Hilton, R.A., and to be seconded; Second Lieut. S. A. Sharp, R.A., and to be seconded; Temporary Second Lieut. J. L. M. de C. Hughes-Chamberlain, Army Cyclist Corps, and to be transferred to the General List; May 6th, 1916.

Assistant Equipment Officers.—April 11th, 1916: Temporary Second Lieut. J. R. Grant, General List. Temporary Second Lieut. S. E. Devonald, General List. May 1st, 1916: Temporary Capt. A. B. Kynoch, W. Rid. R., and to be transferred to the General List. Temporary Lieut. C. Porri, General List, from a Flying Officer (Observer). Temporary Second Lieut. N. A. Ayres, General List. Temporary Second Lieut. J. H. Banks, General List. Second Lieut. E. Stokes, Special Reserve.

Memorandum.—Flight Sgt. Kelsey G. F. Collender, from R.F.C. (S. Afr. Sqdn.), to be Temporary Second Lieut. for duty with the Military Wing of the R.F.C.; April 3rd, 1916.

Second Lieutenant CLAUDE ALWARD RIDLEY,
Royal Fusiliers and R.F.C.

For conspicuous gallantry and good work during Zeppelin raids.

Medals for a Brave Deed.

It was announced in the *London Gazette* of the 19th inst. that the King had been graciously pleased to award the decoration of the Albert Medal to the undermentioned officer, non-commissioned officer, and men of His Majesty's Forces serving in France in recognition of their gallantry in saving life:—

Major CYRIL LOUIS NORTON NEWALL, 2nd Gurkha Rifles,
attached R.F.C.

Second Class.

Corporal HENRY HEARNE, Royal Flying Corps.
1st Class Air-Mechanic HARRIE STEPHEN HARWOOD,
Royal Flying Corps.
2nd Class Air-Mechanic ALFRED EDWARD SIMMS,
Royal Flying Corps.

On January 3rd, 1916, at about 3 p.m., a fire broke out inside a large bomb store belonging to the Royal Flying Corps, which contained nearly 2,000 high-explosive bombs, some of which had very light charges, and a number of incendiary bombs which were burning freely. Major Newall at once took all necessary precautions, and then, assisted by Air-Mechanic Simms, poured water into the shed through a hole made by the flames. He sent for the key of the store, and with Corporal Hearne, Harwood, and Simms entered the building and succeeded in putting out the flames. The wooden cases containing the bombs were burnt, and some of them were charred to a cinder.

	£	s.	d.
Staff and Workers of Gwynnes, Ltd. (Fifteenth contribution) ...	10	0	9
Collected at the Westland Aircraft Works, Yeovil (Thirty-second contribution) ...	0	14	8
1st Air-Mechanic C. T. Gardner, R.F.C. ...	0	10	6
Amount collected at a Concert arranged by the Petty Officers and Ratings at the Royal Naval Air Station, Dundee ...	14	3	11

Total, May 23rd, 1916 ... 10,681 5 8

B. STEVENSON, Assistant Secretary.
166, Piccadilly, W.

SOME AMERICAN AERO ENGINES.

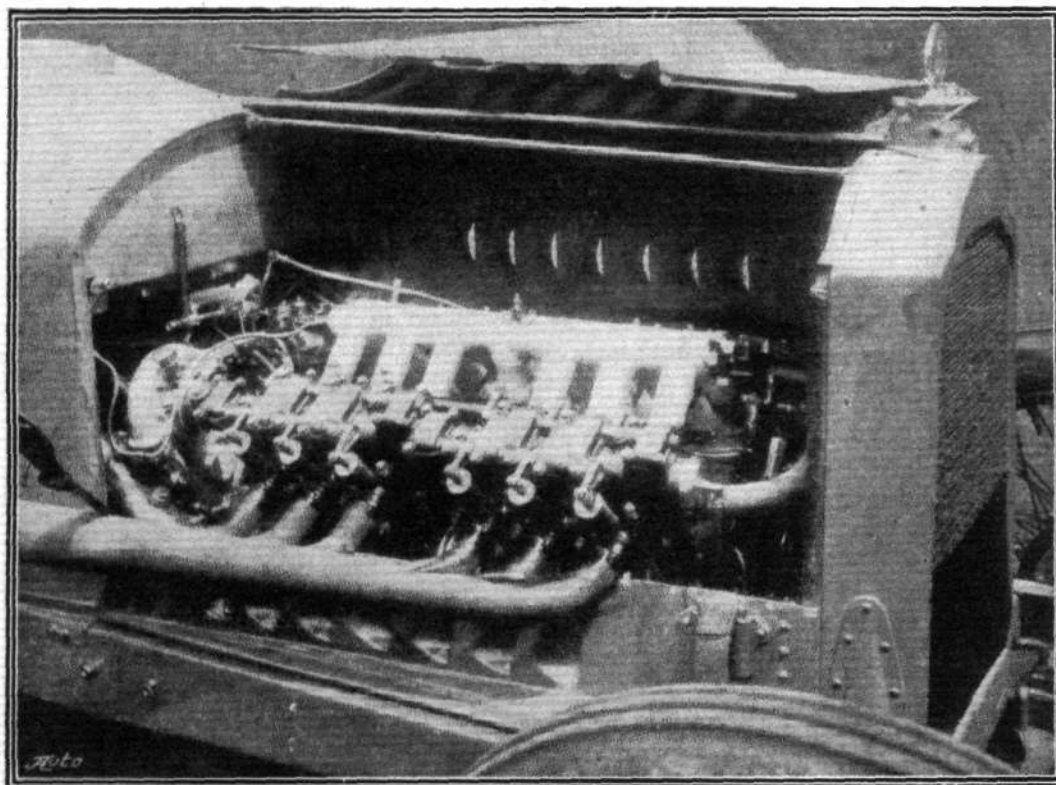
THE PACKARD 12-CYLINDER ENGINES.

FOLLOWING on the success of their twelve-cylinder motor for motor car work, the Packard Motor Car Co. decided to develop a similar engine for aircraft, and designs for two models were put in hand. The smaller—to give 100 h.p.—is of 300 cubic inches piston displacement, has cylinders $2\frac{3}{8}$ -in. bore by $4\frac{1}{2}$ -in. stroke, and gives 100 h.p. at 2,300 r.p.m., while the larger motor has a bore of 4 ins. and a stroke of 6 ins., giving approximately 900 cubic inches piston displacement. One of the smaller models has been completed, and fitted into a special racing chassis, so that it can be fully tested on the track, and lap speeds of between 100 and 110 have been attained. As regards general design both engines are similar, and the following details, for which with the illustrations we are indebted to our American contemporary, *The Automobile*, although they refer specifically to the 100 h.p.

is in an oil box, and the valve end, which is outside. The length of the bearing provides a perfect oil seal, so that the cam mechanism can be lubricated copiously, and yet the valves will remain perfectly clean. Considerable thought was given to the question of driving the camshafts, and it was eventually decided that trains of spur gears offered the greatest advantages. These gears are arranged at the rear end. Owing to the high grade of material the gears are quite narrow, that on the flywheel being only $\frac{5}{8}$ -in. wide.

For lightness it has been found preferable to use a forked type of connecting rod. These rods are made of very high tensile steel of I-beam section, machined all over; an oil tube carries the lubricant to the piston pin.

The crankshaft is very unusual, as the webs are



A view of the Packard aero engine installed in the testing chassis; from this the general arrangement of the valve gear can be followed.

engine, are also true generally speaking of the larger model.

Although in the main the aeroplane engine follows the lines of the car motor, it differs very greatly in detail. Firstly, the cylinders are cast in blocks of three, and have four overhead valves apiece. Possibly it is in the operation of these overhead valves that the most striking engineering advance is to be found. There is, of course, an overhead camshaft to each set of cylinders. With a camshaft above the cylinders it has always been troublesome to find means for operating the valves without at the same time losing quantities of oil. If rockers are used there is always a slit in the side of the casing through which the rocker operates, and it is impossible to make this oil-tight. This trouble has been overcome by cranking the rockers. The lever which rests on the cam and the lever which touches the valve are at opposite ends of a short shaft. This means that the bearing of the rocker comes between the cam end, which

triangular in end elevation. This design was developed by experiments made to discover the design which would provide the greatest rigidity with the least weight. For both the main bearings, of which there are three, and the crank pins, the diameter is $1\frac{7}{8}$ in., but the triangular webs are so strong that the shaft is completely free from whip throughout the whole speed range. The pistons are die cast aluminium alloy, and the whole piston assembly with four rings and piston pin complete weighs 11 ozs.

It is when the valves are examined analytically that one of the advantages of the twelve-cylinder construction appears. In these little cylinders, $2\frac{3}{8}$ bore, there is room for four valves $1\frac{7}{16}$ -in. in the clear. The angle of seat is 45° , and the lift 0.34 in. This gives 1 sq. in. of valve opening for each 17 cu. in. of piston displacement. The 300 cu. in. Mercedes four-cylinder aeroplane engine has the largest valves which can be accommodated, and the valve opening in that engine is 1 sq. in. for each 25 cu. in. displacement.

Another advantage appears when the piston speed is studied, since a $4\frac{1}{2}$ -in. stroke at the normal running speed of 2,300 r.p.m. gives a piston speed of only 1,725 ft. per min.

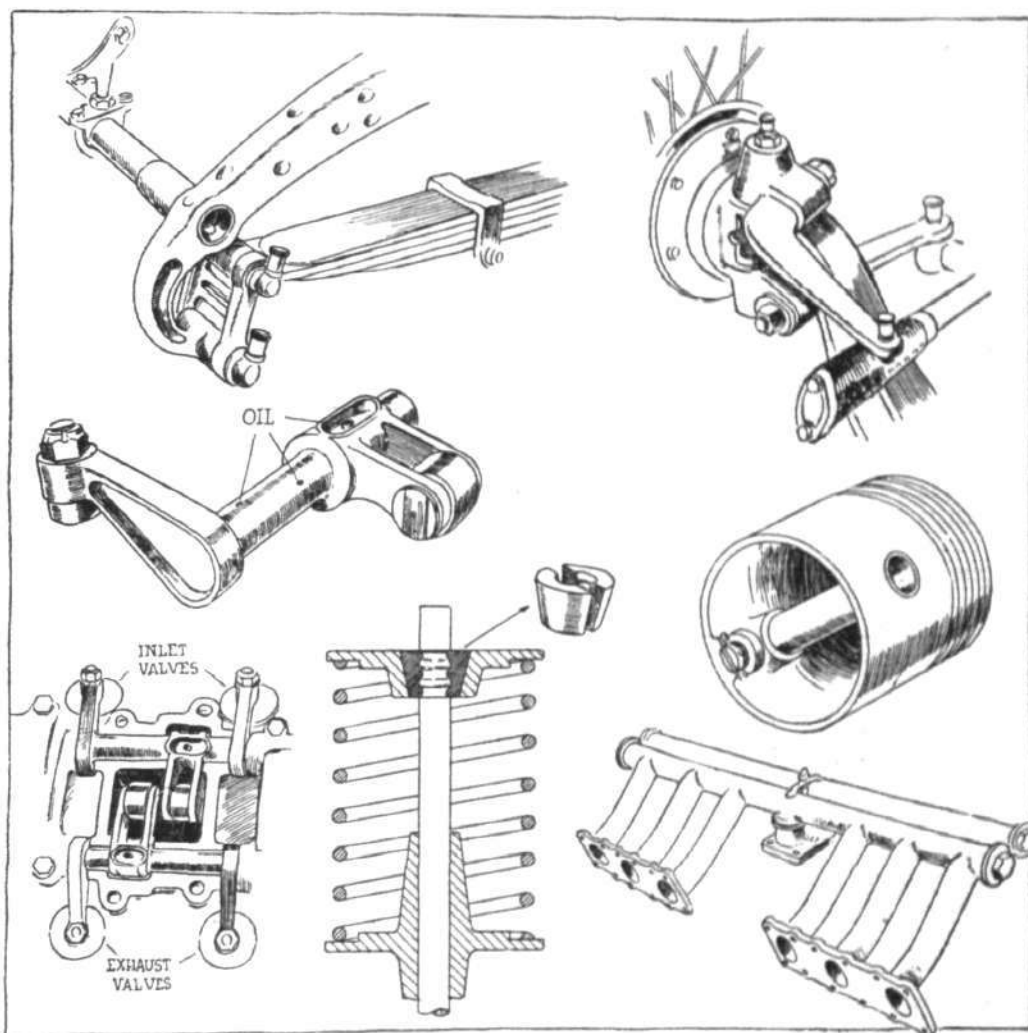
The design of the intake manifold is the result of much experiment, and is giving better service than designs which appear to be a theoretical improvement.

In an intake the resistance to gas flow comes at the corners or bends, and the resistance of the bend is much greater than the resistance in straight pipe. It is thus important that if there be any bends they should all be in the same position relative to the valves served. In this particular manifold the gas rising from the carburettor impinges against the top of the fore and aft pipe, where it spreads, and the distance from each valve to the main

flames, and none would overlap it any more than another.

All Packard aviation engines will be supplied with starting and lighting equipment. For this purpose Delco has developed a special small generator design for the high average speed of aeroplane service. This is mounted accessibly between the cylinder blocks. Having the generator and a small battery there seemed no need for any other ignition device than the Delco distributor, which has given such complete satisfaction. Consequently, one of these is mounted at the rear end of the V. As soon as these engines are ready for delivery they will be offered either with the starting and lighting equipment with Delco ignition, or without any other electrical equipment but two magnetos.

A few of the mechanical details on the Packard aero engine. The valve rocker in the centre is machined from one piece and has a hollow shaft through which the oil flows from the small well at the top. Below is shown the arrangement of the rockers in position over the camshaft. A special form of split conical retainer is used to hold the valve spring seat on the valve stem as shown below in the centre. The aluminium inlet manifold is in two halves, clamped together at the centre, from which point the carburettor is suspended. The two upper sketches are of details on the testing chassis.



header is the same. As a method of demonstrating the accuracy of carburetion, and the evenness of charge obtained with this manifold, the fact may be mentioned that when the engine is run without the exhaust manifold the length of the jet of flame from each cylinder is the same. You could hold a straight edge to the tips of the

The Air Board.

Two more appointments to the new Air Board have been made known. Rear-Admiral Frederick C. T. Tudor, C.B., will represent the Royal Naval Air Service, while Lieut.-General Sir David Henderson, K.C.B., the Director-General of Military Aeronautics, will represent the Royal Flying Corps.

Mobile Anti-Aircraft Defence.

H.M. THE KING was present on the Horse Guards Parade on May 19th, where a competition was held between two mobile anti-aircraft teams. The guns were of a new type and mounted on

The compression volume is stated to be 17 per cent. of the total, giving a gauge compression of 110 lbs.

The timing is quite ordinary. The inlet opens 5 degrees after top centre and closes 40 degrees after lower centre. The exhaust opens 47 degrees before lower centre and closes 5 degrees after top centre.

motor driven lorries. Various manoeuvres were carried out, and they afterwards circled the parade ground at a speed said to be 40 miles per hour. Among those present were Field-Marshal

Viscount French, Admiral Sir Percy Scott, the Right Hon. A. J. Balfour, M.P., and a large number of naval and military officers.

R.F.C. Wing-Adjutant's Pay.

AN Army Order dated May 18th states that the daily rate of pay for an officer appointed on or after the 1st April, 1916, as Wing-Adjutant in the Royal Flying Corps shall be £1 a day inclusive of flying pay and all additional pay.



IN a little world of their own, men of science, of this and other days, live, and have lived. Engrossed in their own particular studies, they appear oblivious to the outside world. Their world is the world of science, nor care they, apparently, for the opinion of any but their scientific brethren. It would seem to me that they probably never read in the newspapers, or elsewhere but in their own journals, any reports on their investigations into matters on which they are concentrating every effort of research. The scientist is in his element at a meeting of brother scientists, and here he will expatiate, wandering at large in the congenial atmosphere, explaining his theories at length, absorbing the information imparted by others. He is with people who understand his efforts and his aims: he does not understand the outer world, nor does the outer world understand him.

Somehow, to the general mind, "Scientist" conjures up a picture of old men with grey beards and horn-rimmed spectacles, although, as a matter of fact, many of them are still comparatively quite young. Simultaneously, there are visions of them passing their lives poking about in test-tubes, concentrating their every moment on one problem. They have but a remote idea of the far-reaching tentacles of science; how these men, working in their laboratories, reach out and solve problems in matters supposed to be entirely outside their particular branch. The fact is they have no particular branch, taking the word in its fullest meaning.

The inclination is, so little are these men understood, to associate them with only one particular thing—Lord Kelvin with electricity, Sir William Crooks with the X-rays, Sir Charles Parsons with steam turbines, and so on. Yet these men have investigated and solved problems far outside these several activities. Take, for instance, the surprise which many people have expressed at reading of Sir Charles Parsons being placed upon the committee formed to investigate charges against the organisation and equipment of our Flying Services. What, it has been asked, can Sir Charles know of aviation, he who is so closely associated with turbines? As a fact, there are few departments of science in which Sir Charles Parsons does not take a deep and practical interest, and it must have been some curious form of coincidence that I came across a reminder in this connection the other day in the pages of "FLIGHT." There I found that so long ago as 1893, he was conducting experiments with a model flying machine.

Turning to "FLIGHT" of February 13th, 1909, there is on record an account of these experiments, together with a couple of photographs. Even at that date—1893—Sir Charles was quite an old hand at worrying around the air problem, as he had then already constructed an aeroplane having a span of 11 ft., a total surface area of 22 sq. ft., and a weight of $3\frac{1}{2}$ lbs.—no mean achievement taking the then stage of aerodynamics into consideration. As far back as this, this machine was driven—and we have a photograph of it in the air—by a steam-engine of Sir Charles' own design, having the cylinder and valve-chest inside the boiler, in an experiment to ascertain the

effect of steam-jacketing small steam engine cylinders. I do not think Sir Charles Parsons pretends to any special detail engineering knowledge of the modern aeroplane, but that he is eminently capable of helping the committee to investigate the charges recently made, I for one do not think there is any measure of doubt.

It would be interesting for those fortunate enough to possess a set of "FLIGHT" to turn up 1909, and read the details for themselves, for, not only would they have a better idea of the cosmopolitan character of science, but they would read there a document of considerable interest from Sir Charles himself, reproduced verbatim, and containing much of interest to earnest students of aviation.

One idea there mentioned, for instance, is a steam-engine with a boiler able to steam the engine continuously by using methylated spirits instead of water in the boiler, and burning the exhaust as fuel. Here now, is something surely worth experimenting with by those having more time to give to its study than Sir Charles, whose attention has been fully occupied in other directions.

Taking another example, that of Sir George Cayley, we go considerably further back—to 1809—more than a hundred years, to find this scientist making a profound study of flight, thereby enrolling his name in this country honourably in the list of those who first extended their mental vision to include the conquest of the air within the boundaries of science.

Further on in the same volume of "FLIGHT" (how intensely interesting and valuable are these records of early days, and how much that would prove instructive could be gleaned by some) can be found a letter from Mr. Arthur Cayley, grandson of Sir George, written to the editor of "FLIGHT."

In this he mentions several other inventions of his grandfather, including a choke-bore gun as now used, a bicycle, and a flying machine of the heavier-than-air type, which flew by means of an engine of his own construction. Sir George Cayley was of course more closely associated with the problems of aviation than some others of our scientists, he foreseeing the difficulties associated with the dirigible on account of its enormous size, and at the time pointed out how they could be made to ascend and descend without the loss of ballast.

Therefore was I right when I set forth that it was erroneous to suppose that scientists necessarily restricted their energies to close association with one particular subject of research.

Science leads on and on. In conducting experiments along certain lines, to ascertain certain facts, side issues of every description and of absorbing interest continually crop up. These are taken count of in their fullest particulars, and placed aside, to await, in their turn, opportunity for investigation.

Unfortunately for mankind, it is to be feared that it must sometimes happen that time for this cannot be found, and the world is the loser. Certain it is, however, that not always to those directly concerned in one particular sphere do we owe, as the outcome of that one science, some of our most valuable discoveries.



London Aerodrome, Collindale Avenue, Hendon.

Beatty School.—The following pupils were out during last week: Messrs. Tjaarda, Smith, le Champion, Cuthbert, Gliksten, Turner, Atkin, Barrow, Martin, Mossop, Stanley, Gaskin, Hoskins, Brewerton, Phillips, Earl, Skeet, Davy, Garlick, Drewery, Kay, Edwards, McPherson, Mitchell, New, Jones, Venables, Towson, Sach, Elliott, and Clift.

The instructors were Messrs. G. W. Beatty, G. Virgilio, H. Sykes, A. E. Mitchell, and H. Fawcett; the machines in use being Beatty-Wright dual-control and single-seater propeller biplanes and Caudron dual-control and single-seater tractor biplanes.

Certificates were taken during the week by Messrs. J. Tjaarda and H. L. Smith on a Beatty-Wright machine, and Messrs. M. C. Mossop and W. N. Patterson on a Caudron machine.

Hall School.—The following pupils were out receiving instruction last week:—With P. G. Allen: Hucklesby, Skinner, Russell, Graham-Davis, Gaskell, Illingsworth, Rand, Deane, Collier, and Gudger, Skinner, Russell, and Graham-Davis showing great improvement. With Chas. Bell: Cosgrave, Mahoney, Smith, Glegg, Duncan, Armitage, Collier, Halliday, Deane, and Gudger; Cosgrave, Smith, and Mahoney ready for *brevet* machine. With C. M. Hill on 70 h.p. dual: Pennell, Taylor, Warswick, Rochford, and Rand, all making good progress. With H. F. Stevens: Dodds, Cosgrave, Mahoney, and Smith; last three nearly ready for qualification.

Machines in use: Hall and Caudron Government type tractors.

Most of the pupils at the Hall School are making very satisfactory progress, and many good tickets are expected shortly.

London and Provincial Aviation Co.—Pupils rolling last week: Messrs. Evernden, Jones, Birkbeck, Daly, Brake, Sivewright and Deacon. Doing straights: Messrs. Whittingham, Morley Kent, Moore, Rimer, Pulford and Dawson. Circuits and eights: Messrs. Egelstaff, Aldous and Parsons.

Instructors: Messrs. W. T. Warren, M. G. Smiles and W. T. Warren, jun.

Royal Aero Club Certificates were taken by Messrs. F. G. Parsons and T. Aldous.

Ruffy-Baumann School.—Pupils with instructor last week: Messrs. Edgar, Dobson, Car, Wilson, Fraser, Portella, Maya, Straus, Di Balme, Bailey, Fanshawe, Johnstone, Williams, Torres, and Westlake. Straights or rolling alone: Messrs. Bailey, May, Whitaker, Williams, Winter, Hoskyns, and Fraser. Eights or circuits: Messrs. C. W. May, Hoskyns, and Baron D'Opstaël.

Instructors: Messrs. Ed. Baumann, Felix Ruffy, Ami Baumann, Andre Thomsen, and Clarence Winchester.

Machines in use: 50 and 60 h.p. Ruffy-Baumann tractor biplanes.

Certificates were taken by Messrs. C. W. May and Hoskyns; half tests by Baron D'Opstaël.

Bournemouth School.

Pupils rolling alone last week: Messrs. Kennedy, Barlow, Brandon, Pritt, Scaramanga, Daniel, Green, Turner, Hammersley, and Hinchliff. Straights alone: Messrs. Morley, J. Wilson, O. Wilson, Morris, Adamson, Smith, Gordinne, and Barlow. Figures of eight and circuits alone: Messrs. Frank Simpson and Morley.

Instructors: Messrs. S. Summerfield and Brynildsen. 35-45 and 60 h.p. Caudrons in use.

Certificate was taken by Mr. Frank Simpson, who attained a height of 1,300 feet, *vol plané* down, landing right on the mark. His flying was exceedingly good.

On Wednesday Mr. Summerfield gave various exhibition flights before a fair-sized crowd, his steep dives being a feature.

The usual number of visitors were again present on Saturday, and witnessed some fine steep banks and spirals by the same pilot. On one flight he attained a height of 3,000 feet, indulging in all sorts of evolutions with engine off. Towards the evening, two passengers were taken up, one of whom was Mr. C. Hudson, of Birmingham, who had the pleasure of enjoying several stunts performed by Mr. Summerfield at an altitude of 2,000 feet; afterwards, he spiralled down to earth.

THE "X" AIRCRAFT RAIDS.

IN view of the decision of the Government not to allow details of places visited by enemy aircraft to be published, we are, as before, giving to each one an index number. Eventually, when details are available, we shall give the respective information under these index numbers, which will facilitate easy reference to each particular raid.

The following announcements have been officially issued, the date after the index number indicating when the raid occurred:—

"X 36" Raid, May 21st.

"The following *communiqué* was issued by the Field-Marshal Commanding-in-Chief Home Forces at 1 p.m. on May 21st.

"A hostile air raid was carried out on the east coast of Kent last night by at least three seaplanes. The raiders made the English coast at a few minutes past two this morning. One seaplane then turned north and dropped a dozen explosive bombs over the Isle of Thanet. Some windows were broken, otherwise there were no casualties and no other damage. The two other seaplanes seem to

have turned south and dropped some 25 explosive bombs over south-eastern Kent.

"In one town a few bombs took effect; one soldier was killed, one woman and one seaman were injured. One public house was wrecked and several houses were damaged. The remaining bombs caused no casualties or damage. The raiders all made off as soon as their bombs had been discharged.

"One raider (seaplane) was brought down by a naval patrol off the Belgian coast this morning."

German Version.

"Berlin, May 21st.

"On Friday night one of our naval air squadrons, starting from the coast of Flanders, dropped a large number of bombs on the port and fortifications of Dover, and on Deal, Ramsgate, Broadstairs, and Margate. Extensive fires and explosions were observed at numerous points. Our aeroplanes were heavily fired upon by hostile coast batteries and patrol boats, but all returned undamaged."

THE R.F.C. INQUIRY.

THE Judicial Committee appointed by the Government "to inquire into and report upon the administration and command of the Royal Flying Corps" met in the Grand Committee Room of Westminster Hall on May 18th.

Mr. Justice Bailhache presided, and the other members present were Mr. J. G. Butcher, K.C., M.P.; Mr. Edward Shortt, K.C.; Mr. I. H. Balfour Browne, K.C.; Sir Charles Parsons, and Mr. Charles Bright. General Henderson, commanding the Royal Flying Corps, was also present.

It was announced that, among others, Lord Montagu of Beaulieu and Lord Oranmore and Browne had intimated their desire to give evidence.

The Chairman announced that General Sir H. Smith-Dorrien had accepted an invitation to join the Committee.

Mr. Joynson-Hicks, M.P., on being called upon to give evidence, said that he understood the Committee was set up with a view to the investigation of certain charges that have been made not by myself but by another member of Parliament. He was not working in concert with him, and desired to make no observation on those charges.

Mr. Balfour Browne pointed out that the Committee was not confined to any person's charges, but to charges made in Parliament or elsewhere.

Mr. Joynson-Hicks said that with regard to allegations he had made against the Flying Service he had looked through his speeches, of which the three principal ones were made on July 20th, 1915; November 11th, 1915; and February 16th, 1916, besides the speech last week. He had not noticed anything that might be regarded in the nature of allegations against the Air Service, but thought the whole of his charges were of a political character against the political heads of departments, and that there was no reflection in any speech against any individual officer of the Flying Corps. In the speech of July 20th I said: "We want more aeroplanes; the Germans have more than we have." That is a statement I made on the authority of Mr. Lloyd George, and I think as a member of Parliament I am entitled to take the words of the Minister of Munitions.

Mr. Balfour Browne: That would be true probably at any time in the war, and it may be true to-day that we want more aeroplanes.

Mr. Joynson-Hicks: Personally, he thought it was true to-day. He went on to plead in that speech for a larger type of aeroplane. The Air Service had developed during the war, but the point was that it had been developed along the old lines—the lines of years ago—because there was not a man of sufficient energy to seize the possibilities that present themselves. He made that speech ten months ago, and he felt that up to the present those who have been in charge of the Air Service—the political heads—had not shown the necessary imagination.

Referring to other speeches, Mr. Joynson-Hicks said it was quite possible to turn out more pilots than we were doing at the present time. He had heard from the front of a pilot who went out after six weeks' training, and who had had five hours' flying before going over. Though our men were so good, and so anxious, their number had always been the weak spot in the service. There had also been great difficulty in getting sufficiently powerful engines. Another fault was that we had had to apply to the French Government for material, as mentioned by Lord French. Coming to his speech of February 16th, the witness said he asked in the House where was the non-rigid airship that was laid down in March, 1914, and referred to the statement made by Mr. Churchill that in the event of a Zeppelin coming overland it would be attacked by a formidable swarm of aeroplanes. He also asked who was responsible for the gunnery defences.

The Chairman pointed out that this was outside the scope of the inquiry. Mr. Joynson-Hicks then said that in January he complained of the see-sawing that was going on between the Army and Navy. There was in this no specific allegation against any specific individual. The Under Secretary had said that aeroplanes could not be sent up merely by touching a button. What he said was that if an aeroplane were kept oiled and filled with petrol, and had a pilot, it would be as easy to send it up in 60 seconds as it would be to turn out a fire brigade in 60 seconds. As to flying grounds, he had said that they ought to have in the night time considerable places lighted with electric lights and ready in case of a raid. On the previous day they were told in the House that efficient and properly lighted flying grounds had been provided.

Mr. Balfour Browne: Some have been provided since you made that speech.

Mr. Joynson-Hicks agreed that great improvements had taken place and more energy was being shown. Coming to the condition of affairs at the front, he alleged in his speech that we had not then

the mastery of the air as we had been told we had, and he urged that we should have the same mastery of the air as we had of the sea. He suggested that the Government should appoint an Air Minister, and it was curious that the name he had in his mind was the man who had now been appointed—Lord Curzon. The speeches to which he had referred contained all the allegations he had made at any time during the past year, and these were founded upon correspondence and interviews he had had with manufacturers, flying men, Army men, and others. It was impossible for him to bring their evidence before the Committee. The letter he read to the House was from an officer serving at the front, a member of the House of Commons, and it was quite impossible to divulge his name. Throughout this controversy he had received confidences from a very large number of men in the flying service, and had given his word of honour not to mention names. He had never made a statement in the House of Commons without investigating it, and in nearly every case seeing the officer in question. A man well known to the Committee, a leading King's counsel, spoke to him the other day about his son, but it was not possible to mention the name.

Mr. Balfour Browne: What was the nature of the allegation?

Mr. Joynson-Hicks: It was an instance of a man flying in a machine who thought it was not sufficiently good for the purpose. The Committee would therefore see the difficulties he had to contend with, but he would like to add that he had brought no allegations against General Henderson, as head of the Flying Corps.

The Chairman pointed out that Mr. Joynson-Hicks' allegations were that there was an insufficient number of pilots, that there ought to be a larger type of aeroplane, that a man had been sent to France after five hours' flying, and that engines were the weak spot. He asked Mr. Joynson-Hicks to obtain what evidence he thought was necessary on those and other points, and to bring them before the Committee. One of those points was in reference to the superiority of the Fokker.

It was arranged that Mr. Joynson-Hicks should have an opportunity on Thursday next of going into details in regard to some of his statements, and that General Henderson should ask him some questions when he again gave evidence.

Lord Beresford was the next witness. Asked by the Chairman to go through his speeches in the same way as Mr. Joynson-Hicks had done, he said the reference did not enable him to go into his allegations against the naval flying service. He did make certain allegations, but on inquiry among his brother officers he found the statements were not correct, and he took an early opportunity of making an explanation in the House of Lords and of expressing his regret that he made them. There were certain statements—he would not call them charges—that he made about the Air Service in the House of Lords on March 9th which it was possible to infer were directed against the military Department. He said he would propose that Zeppelins should be built as soon as possible for the simple reason that in war machines as in everything else it was necessary to meet like with like, and he went on to assert that we had not the mastery of the air when Zeppelins could come here with impunity.

There was really no charge, except the absence of Zeppelins. He had said we shall have to improve the whole of our machines, and they had been improved.

The Chairman asked if Lord Beresford had any specific charge to make against the early machines.

Lord Beresford replied that he had; he thought the whole of our early machines were entirely experimental, and the knowledge we had got by actual practical experience had made our people improve them enormously. They did the best they could with what the Government supplied to them, and it was creditable to our people that they did as well as they did. He did not think the Germans were very far ahead of us now.

General Henderson asked if when he said the machines that were bought were nearly all bad machines, Lord Beresford meant that we bought bad machines when we might have bought better?

Lord Beresford explained that we bought bad machines because we were short. We bought the best on the market, and we thought they were good, but by practical experience we found they were not good, and we made better ones. If we had had more experience he did not think we should have bought the large number we did.

Replying to Mr. Charles Bright, Lord Beresford said that a very large number of machines were ordered because we were not prepared. We wanted to get all we could as soon as we could. That always happened in a panic—you paid the highest price for a bad article. The aeroplane was then in its infancy.

The Chairman: Your point is that the Government ought to have proceeded more cautiously—more carefully?

Lord Beresford: Yes. He did not think the sailor and the soldier were sufficiently consulted in this matter. If they had been asked the work would have been cheaper and better.

Mr. J. G. Butcher: The complaint had been made that the Government did not buy nearly enough aeroplanes.

Lord Beresford: The Government took too much upon themselves in buying what they did.

Mr. A. Lynch, M.P., was the next witness. He said he had made charges as to general inefficiency which, in his opinion, had been entirely justified by the course of events. In handling the whole question the Government had shown a lack of imagination, and a lack of power.

The Chairman: We are not concerned about that. Have you any specific charges?

Mr. Lynch replied that from time to time he had heard from pilots stories of general inefficiency, but he could not produce evidence, because the whole career of his informants would be risked if their names were given. One thing that he brought up months after the war began was the absence of range-finders, especially in London. Another was the want of encouragement on the part of the Government of new inventions. He mentioned the case of a Belgian engineer who spent £2,000 on a new aeroplane which he tried to introduce to the War Office. When he did receive a communication it was after such a lapse of time that he had almost forgotten the matter. It was a curt communication declining the offer.

Mr. Charles Bright asked whether the machine had been tried in France, and Mr. Lynch said that the French Government arranged for a trial flight, but the night before the aeroplane was burned.

Sir Charles Parsons: You say that material is insufficient. What is this material?

Mr. Lynch said it was material of every kind. He went on to

complain that private firms were not encouraged as they should be, and he mentioned the case of a Surbiton firm who had written to him, and their story was fairly parallel to that of the Belgian engineer. This was a firm with great energy and new ideas, and yet it was ignored or snubbed.

He had seen in France a new aeroplane which was more powerful than the Russian. It was being made in a workshop which was under Government control, guarded by soldiers with fixed bayonets. He was only allowed to see it as a special privilege. He had made his report, but he only came up against a dead Department, which only asked not to be disturbed.

Mr. Bright: Is it the system or the individual you are complaining of?—It is both; the system and the individual.

Mr. Lynch added that he did not wish to bring any charge. He simply wanted to stimulate the Department. That had been his line all through. He advocated the construction of 3,000 aeroplanes, not that he thought these were sufficient, but they were as many as the Department could deal with. The Flying Corps should be placed under the control of the Ministry of Munitions.

In reference to the range-finder mentioned by the witness, General Henderson informed the Committee that the Royal Flying Corps had nothing to do with range-finders. As regarded the Surbiton firm which had been referred to, he intended to call one of the members of it on a future occasion.

Mr. A. Montefiore, who is connected with an electric lamp factory in the Midlands, offered to make a statement. He stated that if the Air Service had been organised with a little more foresight, and there had been better co-ordination, many of the raids that had taken place could have been prevented. We also required a proper system of scouting, and there should be a line of aeroplanes and hangars all along the East Coast.

The Committee adjourned.

THE following invitation to attend the next meeting of the Committee on the Royal Flying Corps was sent to Mr. Pemberton Billing:—

2, Elm Court, Temple, E.C.,

May 16th, 1916.

Sir,—I am directed to inform you that a committee has been appointed whose duty it is to "inquire into and report upon the administration and command of the Royal Flying Corps, with particular reference to the charges made both in Parliament and elsewhere against the officials and officers responsible for that administration and command, and to make any recommendations in relation thereto."

You have made certain allegations against the Flying Service, and will no doubt wish to avail yourself of the opportunity of substantiating your charges before the Committee.

To this end I am directed to invite you to attend at the sitting of the Committee at the Grand Committee Room, Westminster Hall, on Thursday in this week, at 11 a.m., when arrangements will be made to enable you to call your witnesses and lay any other evidence you may have before the Committee.

If your evidence, whether oral or documentary, is available on Thursday, it may be found possible to proceed with the inquiry into the charges made by you at once. If not, the Committee will fix some suitable day for the purpose.

I am, Sir, your obedient servant,

DIGBY COTES-PREEDY,

Secretary to the Committee.

Mr. Pemberton Billing sent the following reply to Mr. Justice Bailhache:—

May 16th.

Dear Sir,—I have received this evening by hand a letter from the secretary of the committee of which you are chairman inviting me—the first invitation or intimation I have received—to appear before the committee appointed to inquire into the administration of the Royal Flying Corps.

I observe that in the reports of the meeting of the committee to-day, which appear in this evening's papers, you made the following statement:—"In order to embark upon this inquiry we have invited two or three gentlemen who made the first prominent charges against the air services to attend here this morning."

It has naturally been assumed that I was invited, and indeed much adverse comment and innuendo of the usual personal kind has been made on the fact of my absence. The invitation I have now received is sufficient answer to such criticism, but I must be allowed to remark that your statement was calculated to create an erroneous impression, and to suggest that I had neither the courtesy to reply to the invitation from the committee nor the courage to appear before it.

I now beg formally to intimate that it is not my intention, as at present advised, to submit either myself or my evidence to the

committee. I have taken this decision for the following reasons:—

The terms of reference to the committee have been carefully devised to rule out any inquiry into my allegations concerning the administration of the Naval branch of the Royal Flying Corps. In my speech in the House of Commons on March 28th I substantiated what has been colloquially called my "murder charges" by quoting a few of the many instances of what I contend to be avoidable loss of life. Several of the cases dealt with men of the Royal Naval Air Service, and a letter I quoted from the father of a Naval pilot, now dead, constituted a grave indictment of that service. He wrote:—

"My son repeatedly told me that with the 'dud' machines they are frequently called upon to fly, if they were not killed in action, it was only a matter of time before they would meet their death from accident, and this view I have had confirmed by a number of flying officers with whom I have come in contact. In fact, I know that many pilots consider the risks from actually having to fly faulty machines greater than those incurred in meeting the enemy."

That charge relates to the Royal Naval Air Service, and to the Royal Naval Air Service alone. Therefore ostensibly to hold an inquiry into my charges which rules out my charges against the Royal Naval Air Service is a travesty of justice. In spite of these facts the First Lord of the Admiralty, I have been assured by the Prime Minister, refuses to have any inquiry into the administration and command of the naval branch of the Royal Flying Corps.

If this were not sufficient reason for my refusing to accept this committee as an adequate response to my demand for an inquiry, the constitution of the committee would in itself justify the attitude I feel bound in the public interest to take up. This committee, to be of any value, ought to be able to give an opinion on the evidence—necessarily largely technical—which should be placed before it, and I contend that a committee composed of a Judge, as chairman, with three legal gentlemen, a retired civil engineer, and a gentleman recognised only as an expert on steam turbines, is not the type of committee which could come to any useful conclusions on so technical a subject.

Coupled with these two overmastering disabilities of the committee, there is the injustice of refusing to allow a layman appearing before a body of lawyers to have the protection of counsel. I at least appreciate that my reputation for responsibility and accuracy as a member of Parliament should rest on the findings of this Committee. Therefore it might have been expected that anyone coming before a committee of lawyers well qualified to protect the Departments concerned from irregular evidence would in turn be permitted the assistance and protection of counsel.

Possibly the most disturbing statement made by you at to-day's abortive meeting was the whittling down of the promise of the Government that the inquiry should be held in public. This was "the one bright spot" in connexion with what I can only describe as the amazing procedure of the Government. Now, however, we are to understand that publicity is only to be given to such evidence

as the committee may decide to permit, and even its decisions are to be subject to any further suppression the Government may think fit to exercise through the medium of the Press Bureau. Therefore neither I nor any other witness before the committee could be certain that at any time evidence regarded as vital to corroborate charges might not be suppressed "in the interests of the public."

I think I have shown grounds which at least the public will ap-

preciate why, alike in its constitution, terms of reference, and method of procedure (as revealed at to-day's sitting), this committee must be entirely reconstituted and enlarged, if its findings are to carry the confidence of the Service or the respect of the country.

Yours faithfully,

N. PEMBERTON BILLING.

P.S.—Owing to the urgency of the matter, I am sending this correspondence to the Press.

PERSONALS.

UNDER the above heading will be published weekly particulars of a personal character relating to those who have fallen or have been wounded in the country's service, announcements of marriages and other items concerning members of the Flying Services and others well known in the world of aviation. We shall be pleased to receive for publication properly authenticated particulars suitable for this column.

Casualties.

Flight Sub-Lieutenant FRANK BESSON, R.N., has been reported missing since December 20th, 1915. News has now been received from his observer that he was drowned on that day. He was 20 years of age, and entered the Air Service on December 21st, 1914; was trained at the C.F.S.; had seen active service in Dunkirk and the Dardanelles. It was in the latter vicinity that he lost his life. He was educated at Westminster, where he was a sergeant in the O.T.C. In 1914 he won the Public Schools mile race at Stamford Bridge. The deceased had taken a keen interest in aviation since the age of 12, and exhibited a model aeroplane in the Aero Exhibition of 1909.

Captain ARNOLD REED TILLIE, Cameronians (Scottish Rifles) and R.F.C., whose death is notified, was the second son of Mr. William J. Tillie, of Londonderry. Educated at Kelvinside Academy, Glasgow, and Uppingham, he obtained his commission in the Cameronians in the second month of the war. He was appointed Flying Officer in the Military Wing of the Royal Flying Corps after a year's service with his Battalion, and was promoted to the position of Flight-Commander, with the rank of Captain, in March last. His elder brother—Captain and Adjutant W. K. Tillie, Royal West Kent Regiment—was awarded the Military Cross for conspicuous gallantry near Hulluch on September 25th, 1915; and his younger brother—Second Lieutenant Talbot L. Tillie, Cameronians—was wounded last year whilst serving on the Gallipoli Peninsula. His cousin—Lieutenant C. G. Tillie, Royal Inniskilling Fusiliers—died of wounds received at the Dardanelles in August last.

Lieutenant ORMOND GEORGE HAKE, R.F.C., who was killed while flying, was the son of Mr. and Mrs. E. D. Hake, of Hailly School, Boanemouth.

Wounded.

Second Lieutenant ROBERT MUNDY CHAWORTH-MUSTERS, Leicestershire Regiment and R.F.C., whose name appeared among the wounded in the official list recently, was born in 1895. His great-great-grandfather, John Musters, of Colwick, married the "Mary Chaworth" of Byron's poetry, thus bringing to the Musters family the name and arms of Chaworth and the Annesley estate. His grandmother was a niece of Lord Sherbrooke, the first "match-tax" Chancellor of the Exchequer, and he is also a grandnephew of the Dowager Lady Sempill and a cousin of the present Countess of Elgin.

Married and to be Married.

The engagement is announced of Lieutenant CRATHORNE EDWARD CHARLTON ANNE, R.F.C., youngest son of Major Anne, of Burghwallis Hall, Yorkshire, and ANNIE CHARLOTTE ELLEN, only daughter of the late Mr. JOHN ALEXANDER MILLER and the late Mrs. MILLER, of Edinburgh.

The engagement is announced of Sub-Lieutenant NORMAN SLADDEN, R.N.V.R., attached R.N.A.S., and Miss GABRIELLE VALLINGS, cousin and adopted daughter of Mrs. M. St. Legat Harrison (Lucas Malet), of The Orchard, Eversley, Hants.

JOURNALISTIC "ANNEXATION."

OF late years a somewhat more balanced sense of decency has prevailed in American editorial circles in regard to the "lifting" of original matter—illustrations or otherwise—from foreign contemporaries without the slightest acknowledgment. The contrary custom is more or less now confined to outsiders in the world of American journalism, and so far as ordinary photographs of general interest are concerned we do not attach much importance to this method of utilising "exchanges." A strong protest, however, is needed when original technical drawings—often entailing weeks of work and careful research and judgment—and letterpress are annexed wholesale without giving credit to the source of origin. In this connection we have no alternative but to take exception to the positively unscrupulous way in which a Mr. Lee Wallace handles the contents of "FLIGHT" for the purpose of filling the pages of our

American contemporary *Aircraft*. This literary — well put in the word yourself—not only annexes our technical drawings wholesale, but positively goes so far as to attach his own signature to them! We think audacity can hardly surpass this. We have protested directly time after time but without effect, and therefore this method of easing our feelings and bringing the facts to the notice of the public is our only remaining remedy. In a somewhat lesser degree we have the grievance against another American contemporary, *Aerial Age*, but at least they content themselves with reproducing our pages of drawings just as they appear in the pages of "FLIGHT," merely omitting the courtesy of acknowledgment. The proceeding may be highly complimentary to "FLIGHT," but we would prefer our contemporaries to follow more orthodox and accepted forms of recognising the value of our work.

The Lord Mayor's Views.

THAT the Lord Mayor of London (Colonel Sir Charles Wakefield) is far-seeing is so well known that the following opinions as to the wonderful future for aviation and the enormous strides which the industry will make in the course of the next few years, expressed in the course of an interview with a representative of *The Daily Telegraph*, will hardly come as a surprise to "FLIGHT" readers.

"The aeroplane," said Sir Charles, "although capable of travelling faster than any bird, animal, fish, or mechanically-propelled vehicle, has not yet attained its full possible speed. Whilst 140 to 150 miles per hour is now achieved, the near future will prove that 200 miles per hour or more will not be the maximum speed."

The City business man, Sir Charles confidently asserted, living fifty to 100 miles away from his office, dropping into his own private aeroplane, or calling an aero taxi, would be at his country residence in less time than was now occupied in reaching the railway terminus from which at present he took train for home. He fully expected that within a couple of years he would be able to reach his estate at Hythe, seventy miles from London, in half an hour by aeroplane.

"The principal cities of Europe will be brought very near to London," added the Lord Mayor. "One will fly over to Paris on business in the morning and be back in time for dinner, using the

aeroplane; or if not in too great a hurry, or with a party, the rigid airship may be employed. Express trains will be used only by those to whom time is of little value. New York will be only twenty-four hours away, and machines will leave England for the United States regularly—daily.

"Again," said the Lord Mayor, "postal facilities will be greatly improved; letters posted in London before twelve o'clock mid-day will be delivered in Glasgow or in Paris the same night, and the parcel post carried by air will open up a great postal shopping industry. At the present time aeroplanes with a load of over four tons and carrying twelve or thirteen men have attained a height of over 10,000 ft. in a very short time, and are travelling at a speed of 80 miles per hour or more. These figures will be so greatly improved upon that men on active service will be transported in such quick time to any reasonable given place as to have an immense bearing on military requirements, and the development of the Air Service may be so great as to render war practically impossible, an achievement greatly to be desired."

That the supremacy of the air would be secured eventually by the British, in the opinion of Sir Charles, followed as a matter of course, and he was quite certain that the aeroplane industry would assume much greater proportions than now obtained even in the motor trade.

IN PARLIAMENT—THE AIR SERVICE DEBATE.

ON May 18th Mr. Joynson-Hicks moved "That this House urges that His Majesty's Government should without delay take every possible step to make adequate provision for a powerful Air Service." He said that he had made his resolution as wide in its terms as possible, for he wished to refrain from anything of the nature of a party political attack on the Government, his sole object being to secure the utmost possible efficiency in the national interest. After several references to previous debates and his own speeches, Mr. Joynson-Hicks pointed out that the replies which representatives of the Government gave were in general too optimistic as to the provision that we were making, and that at the same time they indicated a want of adequate appreciation of the mechanical and other problems which had to be solved. After a recent visit, at the invitation of Mr. Tennant, to the Horse Guards he unhesitatingly said that great improvements had taken place in regard to notification, telephonic and other matters. But the officer who showed him round pointed out that it had all been done since January last. His complaint was that it had not been done much earlier. If nothing at all had been done the right hon. gentleman would have been hanged on a lamp post long before.

He complained that there had been delay all through. The very fact that the arrangements for the defence of London from Zeppelins were not put on an efficient basis until 13 or 14 months after the Zeppelin raids took place was a condemnation of somebody. The people who suffered from the raids six or eight months ago were entitled to say to the Government that the very fact of their having put London in a proper state of defence to-day showed that they were responsible for the deaths that occurred then. The country, as apart from London, was not safe. Much more could be done than was being done by mobile anti-aircraft guns. Fifty or sixty such guns with decent searchlights would be a sufficient defence. That scheme had been put before the Government. Why had it not been carried out?

Mr. Tennant: Who says it has not?

Mr. Joynson-Hicks: I do.

Mr. Tennant: You are wrong.

Mr. Joynson-Hicks said a certain anti-aircraft gunnery corps in the Eastern Counties were still armed with the same pom-poms and the same Maxims of which he had spoken three months ago. It was quite true that they had had a certain number of new guns sent to them—machine guns, which if they were to fire ordinary machine-gun ammunition would be of no use against Zeppelins. The proper form of ammunition had not been sent.

If there were an Air Minister he could be called over the coals, and they would not have this constant backward see-sawing between the Army and the Navy; they would know who really was responsible. The real trouble in regard to the Air Service was lack of imagination and realisation of the possibility of what might be done. He was still prepared to say that we had not yet got the command of the air in Flanders. It was true we had it in the early part of the war. In spite of inadequate machines our men beat the Germans; but now we had not got the command. A captain in the Royal Flying Corps, who had received the Military Cross, wrote, saying that what the public were told about our mastery of the air was not accurate; that we had not the mastery because we had not the right machines. The position was one in which our men ought not to be placed. A young officer sent up to make a reconnaissance in a machine which was not suitable to meet German machines, because it was not fast enough, returned. His superior officer said: "Why do you not go beneath the clouds? They are only 3,000 ft.?" He said: "No, sir, not on this machine. If I had a fast machine I would go, but this machine is not fast enough, and it is too dangerous to do it at that height." After this discussion the superior officer said that he would go himself. He was a brave man. He went up, and within ten minutes he was shot dead.

Mr. Billing (*sitting below the Bar*): Shame!

Mr. Joynson-Hicks: That was because the machine was not sufficiently quick enough to enable him to escape the German guns.

Mr. Speaker: I must inform the hon. member for East Hertfordshire that as he is sitting outside the House he must not make any interruption. If he wishes to interrupt he must come inside the House, which is the proper place.

Mr. Billing (*from inside the House*): I was not aware that I was outside the House. I will exercise the privilege of remaining inside the House so that I may maintain the privilege of making any comment I think fit.

Mr. Speaker: That was why I informed the hon. member and asked him to come in.

Mr. Joynson-Hicks, resuming his speech, said that the father of a flying man had supplied him with the names of four German machines, all of which, he declared, were superior in pace to the particular machines which most of our men were flying in. A con-

tract was given some time ago for a large number of engines of quite insufficient horse-power. Why, he asked, was not a contract of that kind scrapped? We needed four different types of machines, some in hundreds and some in thousands. There was no harm in mentioning the fact that one big firm in France recently had an order for 2,500 machines, and at the present time they have a thousand machines in reserve at their works which have not yet been delivered to the French Army. Who ever heard of an order of that kind being given to one of our British firms? Some English firms had told him that they could do more than they were doing, that they could put up bigger works and turn out more machines. It was not a lack of ability, it was a lack of imagination in high quarters. If we possessed an adequate number of machines German means of communication, German batteries, stations, ammunition parks, everything would be bombed. All this could be done easily at an outlay of ten millions.

He asked whether they were to go on permitting those who were responsible for the affairs of the country to go on mismanaging them, or whether the country was to have a responsible head over both branches of the Air Service. Could they not have somebody who would amalgamate the two services, prevent the friction which went on, and the competition for the supply of machines, and who would take charge of the factory whose head was paid the salary of a Field-Marshal. That factory was hated by the Flying Corps and the Royal Naval Air Service, and it was a factory which many of our best flying officers regarded as a hindrance rather than a help except from the experimental point of view, in regard to which it is doing quite good work. He warned the Government that no mere reconstruction of committees would be of any use. They did not want committees and did not want a man of the eminence of Lord Curzon as chairman of a committee sitting perhaps two or three days a week and thereby wasting his time, as Lord Derby and Lord Montagu wasted their time when they were on that committee. He appealed to his right hon. friend not to appoint any more committees, but to put some man in charge who would be responsible—a man with a reputation to lose, and not a man who wanted to make a reputation. It was a business in which failure was quite possible, and one which a man would only be prepared to take who was ready to risk his reputation for the good of his country.

Mr. Montague Barlow seconded the motion, and, speaking from the point of view of the ordinary unofficial member, and disclaiming any idea of seeking to hamper or weaken the Government, said many of them felt that it was difficult for the Government to justify a good deal of what had been done or not done in the last ten or twelve months. This was a question that had got to be settled. There was an uneasy feeling in many parts of the country. They were told that the defences of London were now in a much stronger position, but they had very little information as to the position in other parts of the country. He had received a telegram from the Mayor of Salford stating that they were particularly concerned as to the air defence in that district and pressing him to urge the Government to take action. From the Lord Mayor of Manchester he had a telegram in stronger terms. He was not suggesting panic or anything of the kind; one of the gratifying facts about the air raids was to show that, whatever happened, there would be no panic. All they asked was that the Government would take all possible steps to secure the people against air attack.

He hoped there was now going to be a really definite policy of a large and energetic kind—a policy which would give us the best means of offence and defence, and enable us to feel that when our magnificent and heroic Flying Corps went up on their perilous task their machines were the best that money and brains could produce.

Mr. Tennant said that if he were not, to use the classic phrase of the motor trade, a shock-absorber, he might really be surprised at some of the statements of his hon. friend, the mover of the motion. He complained that he had received no answer to his speech of February 16th. As a matter of fact, it had been his duty, not always a pleasant one, to make many speeches since February 16th in reply to attacks on the Government, and he had given the House a very great deal of information on this subject. He was a little surprised that his hon. friend had not been a little more handsome in acknowledging the improvements which had been made. There had been a vast expansion of our Air Service and enormous development. Another complaint against the hon. gentleman was that he brought forward statements from various sources making allegations which he must know it was impossible for him to answer—not because there was not an answer, for there was, but because it was undesirable to give the information. There were many things he could say which it would be improper for him to say. But if it were a question of choosing between giving information and incurring odium he would rather receive any odium that could be poured upon him.

Turning to what had been done at home, he said that the system of warnings was now complete, and they could tell any place in the country what was to be expected. He did not want to say we had all the guns we wanted, but they were coming along. He did not think it proper for persons in the employment of the State to make the kind of allegation which had reached his hon. friend. It was a kind of thing that ought not to be encouraged—complaints by serving soldiers ventilated in that manner and used as a stick with which to beat the Government—surely that was not an action which the hon. gentleman ought to encourage.

Mr. Joynson-Hicks: I think my right hon. friend is a little unfair. I did not use them as a stick to beat the Government with. I drew up a very wide resolution with the sole object of improving the conditions of the air service.

Mr. Tennant said he would withdraw that expression if the right hon. gentleman took exception to it, and would say, "Statements made to be used as arguments for the encouragement of the Government." He did not think they ought to be "encouraged" by statements from persons in the service of the State. The hon. gentleman had been quite misinformed in what he said about mobile guns not having been adopted by the Government, but it would be improper to go into detail on what had been done. It was incorrect to say that the same machine was used for every kind of purpose. They had various types of machines. He did not exactly know what Mr. Joynson-Hicks meant when he spoke of "the supremacy of Great Britain in the air." If he meant that no German machines should be allowed to go up in the air at all he was asking for a very great deal.

Mr. Joynson-Hicks: I mean in regard to the air exactly what everybody means with regard to the supremacy of the British Navy on the sea.

Mr. Tennant said he did not want to boast, but it would be far from the truth to say that the Germans had got the supremacy of the air. On the other hand, we had a very large measure of supremacy in the air, and in the great majority of combats in the air we were the winners.

As for reconnaissances and wireless, these were the concomitants of everyday action. We did infinitely more reconnaissance work and the "spotting" of artillery than the Germans had ever done. He was also informed that we had at the present moment two types of aeroplane faster than anything possessed by the Germans, and that we had two other types as fast as their fastest. He made the hon. member a present of that, and asked him to investigate it and see if it was not true. He was not able to give the numbers of them, as it was not desirable, but he would say that we had two types faster than those of the Germans and two types as fast as theirs, as they said in his country. He noted that the hon. member did not this time say anything about landing places for night flying. In the past he had complained that we had not a sufficient number of them. He probably did not say that now because he knew that the defect had been remedied. We had a sufficient number, and the arrangements had been made by those who were practical flyers, and they had provided them with the approval of the pilots. If the hon. member thought that was not accurate and was too sweeping, the Government were quite prepared to have that inquired into by the Committee which was being set up.

He could not pass by in silence the correspondence which had appeared in the newspapers that morning. He noticed the hon. member for E. Hertfordshire (Mr. Billing), on whose charges he asked the Prime Minister to set up the inquiry—a judicial body, as he called it—had declined to give evidence before it on two or three grounds. One was on the ground of its composition. With regard to that he (Mr. Tennant) was responsible, and if anybody had any ground of complaint let him bring it to him. He could not see how it would be possible to improve the composition of that Committee. (Mr. Billing: "Quite easily," and Mr. Hogge made some remark which was not heard in the Gallery.) He regretted that he did not consult the hon. member for East Edinburgh, for then, he thought, he would really have got some valuable information. It had been suggested that some practical flying man ought to have been put on the Committee. But what practical flying man was there who was not rendering much better service to the State at the present time than by sitting on a Committee of Inquiry investigating the charge made by the gentleman who had lately been added to the members of that House?

Mr. Hogge: He won a seat, anyhow.

Mr. Tennant: Yes, and my hon. friend has even won a seat.

At this point Mr. Billing rose, and remained standing amid loud cries of "Order" and "Sit down," which were continued for some moments.

The Speaker: I must inform the hon. member that he is not entitled to rise and interrupt any other hon. member during his speech unless he wishes to raise a point of order. If he wishes to raise a point of order, I will hear what that point of order is. I

may also inform him that when I am on my feet he is out of order in rising. If he insists on standing when I am on my feet, I shall have to call on him to withdraw.

Mr. Billing: On a point of order I should like to know whether it is in order for the right hon. gentleman on the Treasury Bench to use this opportunity of adding to the already very regrettable methods adopted by Sir John Boraston and others, which is to cast innuendoes at me for being able to defeat the two party machines.

The Speaker: The hon. member will have an opportunity later, of which he will avail himself, no doubt, as he has in the past, of making such charges and replies as may seem good to him.

Mr. Tennant: Before I leave the question of superiority in the air, I should like to inform the hon. member for Brentford and the House that the Fokker machine which was captured not very long ago was a new machine, and that it has been tried by our own airmen. I refrain, for obvious reasons, from giving in public the information which we obtained from the pilot, but I will give it to the hon. member privately. I will quote two sentences: "The speed of the machine is practically the same as that of an 80-h.p. Morane scout with deflector propeller, but the decline is not nearly so fast. The fore and aft control is distinctly bad." It is stated that it is a difficult machine upon which to teach pupils to fly.

As to the composition of the Committee, pilots who are now engaged in the fighting services ought not to be taken away from their important duties, and, moreover, it would not be in accordance with our ideas of what is correct in matters of discipline to place a junior officer to sit in judgment upon his superior. As to whether all the proceedings of the Committee are to be conducted in public, that surely must be a matter for the chairman to decide. It has been arranged that an Air Board shall be constituted on the following lines:—The Board shall be composed of a President, who shall be a Cabinet Minister, one naval representative, who shall be either a member of the Board of Admiralty or shall be present at its meetings when matters connected with the Air Board are under discussion, an additional naval representative who need not always be the same individual, one military representative who shall be a member of the Army Council, an additional military representative, who need not always be the same individual, a member of independent administrative experience, and a Parliamentary representative sitting in the other House than that in which the President sits. The Board will be an advisory board in relation to its President, that is, its decisions will not be arrived at by voting. The Board shall be free to discuss matters of general policy in relation to the air, and in particular the combined operations of the naval and military air services, and to make recommendations to the Admiralty and the War Office thereon. The Board shall be free to discuss and make recommendations upon the types of machines required for the naval and military air services. If either the Admiralty or the War Office decline to act upon the recommendations of the Board, the President shall be free to refer the question to the War Committee.

Sir E. Carson: Will he be bound to refer?

Mr. Tennant: Presumably he will not. The Board shall be charged with the task of organising and co-ordinating the supply of material, and preventing competition between the two services. The Board shall organise a complete system for the interchange of ideas on air problems between the two services and such related bodies as the Naval Board of Inventions, the Inventions Department of the Ministry of Munitions, the Advisory Committee on Aeronautics, the National Physical Laboratory, &c. The Board shall have a secretary to assist in the conduct of the business brought before it.

An Hon. Member: Who will control the money?

Mr. Tennant: They will get all the money they require voted in this House.

Colonel Churchill: Suppose the Air Board wish to order 1,000 machines of a particular type, of which the Admiralty or the War Office do not approve, have the Board power to give the order?

Mr. Tennant: In the event of disagreement the decision would rest with the War Committee, who would give instructions through the Ministry of Munitions as they thought fit.

Colonel Churchill: So that the Board will have no executive power apart from agreement with the two departments without the authority of the War Committee?

Mr. Tennant: Yes. The Prime Minister has invited Lord Curzon to accept the presidency of the Board, and Lord Curzon has accepted that office. Lord Sydenham has accepted an invitation to become a member of the Board, and the hon. member for Rugby (Major Baird) will represent the Board in this House.

I hope the House will realise that this is a very different proposal to that suggested by the hon. member for Brentford. It is not a method of finding a way out. It is a real Board, with access to the War Committee, with responsible powers—far greater powers already than any body which has been created hitherto to deal with the Air

Services—with power to pick out and discuss larger problems of the Air Services. The old committee was confined in its powers to materials. This Board will have wider powers, and will be a much more important body. Nor will they have only the powers which I have mentioned. They will charge themselves with larger and wider questions, and think out the development of their own body, possibly with a regular department under it, such as has been suggested from various parts of the House—what is called an Air Ministry. It has been thought that during the progress of the war the dislocation and friction involved in setting up an Air Ministry now would be too great to permit us to embark upon it. I hope the House will realize that an important step is to be taken, and will agree with the Government that the best is to be hoped from this step.

Colonel Churchill said he thought the House would have heard with some feeling of disappointment the announcement of the change proposed. After the repeated postponements which had taken place a real effort at a solution of the question should have been set forth by the Government. The Air Services had long needed the guidance and aid of some person of great eminence, versed in public affairs, and of adequate influence in the Cabinet. This they would find in Lord Curzon; but Lord Curzon, without adequate powers, would not succeed in altering the present state of affairs. In the choice of a policy the Government had followed no principle unless it were that of postponement to the last possible moment, and then taking the line of least resistance. The Government had never made a plain statement of how it was that the Admiralty became responsible for home defence against aerial attacks. It was commonly supposed that the Admiralty, at some more or less distant period before the war, under his impulsion rushed into the business of home defence, snatched it away from the proper authorities, and then mismanaged and neglected it. The contrary was the truth.

As late as July 21st, 1914, that was to say on the very eve of the war, at a meeting of a committee appointed to regulate the relations of naval and military aeroplane and seaplane bases, the representative of the War Office—the War Office was then in charge of the present Prime Minister—claimed for the War Office the sole responsibility not only in regard to everything inland but also in regard to naval ports and vulnerable points of all kinds, even those of exclusively naval interest. Notwithstanding these views, which in principle were quite sound, so far as the integrity of home defence was concerned, the War Office had not up to the time of the declaration of war provided any aeroplanes for home defence; they had limited themselves exclusively, and as a matter of prior urgency, to the development of the expeditionary squadron, and on the outbreak practically all the Army aeroplanes were sent abroad. He did not say that they were wrong in this at all. The despatch of the squadron for the expeditionary army was a matter of vital urgency, but the consequence followed that not only were there no aeroplanes available for guarding all vulnerable points, but none could be found even for the temporary purpose of watching this coast during the passage of the Army to the Continent.

Before the war there were extraordinary difficulties in getting money for the Air Service. With the exception of a few newspapers and a few members of Parliament there was no backing behind any request for money. It was pitiful to look back now upon the shifts to which they were put to obtain the necessary money, and it was out of the difficulty of getting the money that the duality originally arose. As early as 1912 he began to develop the aeroplane service outside our normal Admiralty sphere, in order to supplement, from another set of Votes, the inadequate credits which the War Office succeeded in obtaining. They saw now the evils of duality, but at that time the object was to get as much material and as many airmen into existence as possible in the time available. When the war broke out the service had already attained respectable dimensions.

He had been twitted by Mr. Joynson-Hicks with his phrase about the hornets. He was very glad to come to the hornets. The main defence of England against Zeppelins had consisted since the war began in that formidable swarm of hornets of which he spoke in 1913. That was to say aeroplanes with skilful pilots were held ready with bombs and guns to attack any Zeppelin which approached our shores. This defence had been effective up to date in preventing any attack by Zeppelins coming here by daylight, or even by moonlight. Thus for the whole of every day and for a large proportion of the hours of darkness complete protection had hitherto been afforded. It was hoped that even in the dark nights the aeroplanes would be able to act effectively against Zeppelins. This hope had not been realised, not because the aeroplanes could not fly at night, but because it had proved almost impossible to find the Zeppelin in the dark. But, apart from this very important exception, the conclusions he had stated to Parliament in a perhaps dangerously picturesque form had been justified. They were no more vitiated by the occasional raids which had taken place in the

dark hours than the strategic conclusions which fixed the war station of the Fleet had been vitiated by the occasional chance raids on our eastern coast.

If the Zeppelins could come in daylight they would be able to find their way to the arsenals, dockyards, munition works, and other important points, and to drop their bombs with deliberation and accuracy. The proof of the triumph of the aeroplane was that no object of any military or naval importance among the thousands in this country had been struck by any Zeppelin bombs. All this was absolute truth, however much it might be ignored in some quarters. This truth was incontrovertible. Panic might resent it, ignorance might decide it, malice might distort it, but there it was. The second defensive method against Zeppelins was guns. Within its restricted area, and to a limited degree, this method also had proved effective, but the whole country could not be protected by guns, even by mobile guns—there were not enough guns in the world for the purpose. He hoped the House would make the Government feel that they would find effective support against reasonless civilian clamour, however natural it might be.

Outlining the air policy adopted before the war, he gave reasons for not following Germany in the construction of large rigid airships. No responsible officer at the War Office or the Admiralty he met before the war anticipated that Zeppelins would be used to drop bombs indiscriminately on undefended towns, because it was assumed that the enemy would be guided by good sense and a lively regard for his own interests. But what more mischievous policy in her own interests could Germany have pursued than this policy, which infuriated the population against her and failed to accomplish results of military value? If before the war the military authorities had known this form of attack would be made, it was not clear to him what steps they could have taken to guarantee the British public against the danger. Zeppelins would have been no guarantee, the area upon which attacks could be made being so large. The defence would have had to concentrate on any point in superior force, and then to bring to battle a few dark shapes moving at a great height through mist and clouds.

Had the Government entertained the project of constructing a Zeppelin fleet we could not have hoped to compete with Germany successfully in rigid airships in the time available. For the eight or ten millions necessary to establish such a fleet, in addition to the ordinary estimates, we could have added 60 or 70 submarines to the Fleet, we could have had 50 destroyers, we could have had 25 light cruisers, we could have had an aeroplane service of absolutely overwhelming strength, we could have had two million rifles, which would have meant three million more men in the field during the struggle of last autumn; we could have had a thousand heavy guns, with which to rupture the German lines. All these needs would have had to be considered before deciding to spend 10 millions on a Zeppelin fleet.

The only radical cure for Zeppelin raids was either to attack the German Zeppelins in their sheds with aeroplanes or to station squadrons of aeroplanes at some point or points overseas where they could intercept the German Zeppelins during daylight either going or returning. As to the first, why had it been discontinued? Why had it not been possible to construct the special types of machines that might be required for each particular objective? In his opinion the reason was that this subject had not been studied from a commanding point of view by anyone who was able to give his whole time and attention to it. Meantime, the enemy's means of defence had been continually improving. All the more condemnation therefore to the Government for losing so much valuable time and perhaps for permitting precious opportunities to slip by. He urged the Admiralty not to delay the energetic development on a great scale of seaplanes, and especially aeroplanes, operating from ships specially adapted or from the existing war ships. Controversy in these matters proceeded frequently on wrong lines and at cross-purposes. Take, for instance, the case of the Committee which had been appointed to examine into the charges of Mr. Pemberton Billing. The member for East Herts made a speech in which he used the word "murder." That was not a charge of murder. Murder was an expression which was frequently used by members of Parliament when they were angry, and to take up the time of a Judge of the High Court and a number of important persons in setting up a committee to try to score off a private member of Parliament whose activities—at any rate that was the reason given by the Under-Secretary. The hon. member made charges of murder. It was a well-formed committee for that purpose. But, as a matter of fact, the hon. gentleman, so far as he could gather, was leading the Government to suppose that what was needed was an increase in the factor of safety in the machines. He had heard that there was a great deal to be said for acting in the direction of the relaxation of the factors of safety in constructing machines in order to get speed and climbing power which would save the life of a pilot in a hard fight.

Mr. Billing rose, whereupon there were cries of "Order."

The Speaker, intervening, said: I have pointed out to the hon. member for East Herts more than once that he is not entitled to rise and interrupt hon. members in the course of their speeches. If he has a point of order to raise, then he is entitled to raise it, but he is not entitled to rise and ask questions or to give explanations. He must wait.

Colonel Churchill (continuing) said he could not understand the Government having gone the length of setting up the cumbrous machinery of a Judicial Committee of Inquiry, which would waste the time of a great many hard-worked people at the present time for the purpose of coping with the statements made in debate by a private member.

Dealing with the proposals of the Government, he said the difficulties from which our air organisations suffered arose from two causes, first of all the duality of effort and organisation, and the friction resulting therefrom. As an instance, he mentioned that shortly after he left the Admiralty the resolve was to navalise the Naval Wing from top to bottom, although it was almost entirely staffed by young civilian pilots. But in the pursuit of this general policy of navalisation the speedometers in the machines, by which the rate of flight was regulated and the position of the aeroplane located, which were in miles, were all converted into speedometers in knots. The result over in France and Flanders, where we had numbers of aeroplanes continually flying, was that you had the speedometers in knots, while the maps which the men were using were in miles or kilometres, and the naval pilot, with perhaps a Fokker machine in the air above him, and bursting shells below him, had to go through a careful and elaborate and difficult calculation to convert the miles into knots or back again to verify his position. That was a typical instance of a hundred small points of petty friction arising from the undue particularism which it was hoped the Government would make proposals finally to remedy. The second and much more serious difficulty was the lack of any commanding initiative and design and over-riding authority in affairs of the air. Neither of these difficulties would be remedied by the proposals. They seemed to be a mere attempt to parry the demand for an Air Ministry by setting up another advisory committee with Lord Curzon at its head instead of Lord Derby. The President of the Board might advise the Admiralty and the War Office, but they need not take his advice, whether it was what you might call advised advice or unadvised advice. If it should be the latter they would be very unlikely to take it, because they would have had their own representative on the new Board, and if he dissented from the advice offered by the President he would have the opportunity of being the first in the field to offer the views which he held. They were told the Board was free—free like the rest of them, like Mr. Billing, free to discuss matters of general interest and general policy in relation to the air. That did not seem to him to amount to very much of a forward step. Even without all this it would be, he thought, open to Lord Curzon as a Cabinet Minister to discuss matters of a general policy in relation to the air, to "interchange ideas," and even to make suggestions and to raise them in the Cabinet. And even without any action by Lord Curzon it would have been possible for the Secretary for War and the First Lord of the Admiralty to have come together and arranged a common policy or even to have set up a standing interdepartmental committee. Such a committee, with the goodwill of the departments concerned, would have achieved far more than any outside body with doubtful powers and with a critical faculty. Either the arrangements now proposed would lead to nothing effective, which would be the case if Lord Curzon showed the great qualities of tact which were likely to be required from the holder of the new office, or they seemed likely to lead to a first class row. If Lord Curzon was going to make his work a reality it would be perfectly clear that very grave differences and much friction would immediately be created. In both cases they would lead to delays.

Could anyone feel that the proposals were put forward by the Government in the sincere belief that they would open the way for the conquest of aerial supremacy for this country? He could not think it difficult—though, no doubt, they would hear of the difficulties which stood in the way of an Air Ministry—either to devise or to bring into operation a unified organisation, or to divide on natural and well-marked lines the services of training and supply from the tactical employment of units in the other. In fact, he proposed to the Prime Minister a scheme on those lines a year ago. He agreed that amalgamation was not possible at a single stroke, but the formation of an air department with real responsibility and real powers was an urgent and indispensable preliminary.

While we had not complete supremacy, nor even equality in the air, we could recover it. The air was free, and the resources of the whole world were at our disposal. Nothing stood in the way of our obtaining early supremacy but ourselves. There was no reason or excuse for failure to obtain that early supremacy which was, perhaps, the most obvious and most practical step towards a victorious issue from the increasing dangers of this war.

Lord H. Cecil said he thought the attacks made on Colonel Churchill had been very exaggerated, and that the policy he pursued was one that could be justified by the consideration that we were in time of day completely and in time of night partly defended. He believed he expressed the better opinion among flying officers when he said that an aeroplane at night was of less value even than the right hon. and gallant gentleman had represented. At night the security of the island must depend on anti-aircraft artillery, and it was not, therefore, a problem of aviation at all—it depended on the artillery of the country and not on the Flying Department. Referring to Mr. Joynson-Hicks's statements as to the relative powers of the German and British flying services in Flanders, he thought the hon. member made a mistake in relying to the degree he did on statements made by officers at the front. When he relied on statements of officers who were not flying themselves the opinion was not so good as that he could himself form at home. If it were a proof of superiority to fly over the lines of your enemy, we had that superiority in much larger measure than the Germans. Flying officers were usually young men, and they had the defects of young men. Young men generally began by representing that everything was very badly done in the services to which they belonged.

He had spent three months 25 miles behind our firing line, and he had seen only one German air machine, which was brought in after having been captured. If he had been 25 miles behind the German lines he would have seen on every fine day several British machines engaged in long-distance reconnaissances. The Germans advertised their very brilliant airmen much more effectively than we did. Statements as to which was the fastest machine must be received with great reserve, for, except when a flight was over a short measured distance at a low elevation, nothing more than a hasty impression could be formed. So rapid was the development of the science that it was difficult to decide at what time to give any large order for machines. To give an order for anything like thousands of machines would be insanity, because long before the thousands had been used up a new type would have come into use. The most strenuous efforts had been made to overtake the advantage which the Germans gained in the second stage of the war in regard to the fastest machines. In this war the battlefield was also a laboratory. Machines and apparatus had to be tested on the field of action, and the High Command of the Flying Corps deserved special praise for having given every possible opportunity to all officers to try improvements and develop ideas. Nothing had been said about the wonderfully good work in photography which had been done by members of the Flying Corps. In regard to machine guns we had a decided superiority, and our Allies joined with us in believing that we had the best type of machine gun. Much had been heard of the unhappy accidents that sometimes occurred. It seemed such a terrible waste that, not at the hands of the enemy, but by mishap, valuable lives should be lost. It was impossible to show what was the exact cause of the accident when it occurred high above the ground, and the machine itself was smashed. The common cause alleged was that some mistake was made by the aviator—in which case no one could be held to blame but the man himself—or that there was some failure in the engine. He had examined into a number of cases which Mr. Joynson-Hicks had adduced, and as far as he had been able to judge was of opinion that they resulted from defects in the machine or from engine failure. In the majority of cases when mishaps occurred it was possible for the aviator to come down without smashing his machine, but if he made a mistake at the critical time the result might be fatal. No one in such circumstances liked to reflect on the aviator, and the relatives naturally got the impression that the disaster was due to defective apparatus. In general the apparatus was as trustworthy as it could be made. If it was not blame would attach to the officer in command for sending up an aviator with a defective machine. Or blame might attach to the air-mechanic in charge of the aeroplane who reported that it was fit for flying. But in any such case the blame could not rest with the War Office or the Royal Aircraft Factory, or any person responsible to that House.

The conception that there was indifference to human life, or to the occurrence of accidents, on the part of the higher officers of the Royal Flying Corps was a mistake so flagrant that were it not so grave it would be ludicrous. The utmost care was taken that lives should not be sacrificed excepting to the necessities of war. Our Royal Flying Corps as regards the efficiency of the machines and the men who were in it would bear favourable comparison with any flying corps in the world; there was none that did more than ours. Some of the narratives of achievements of our men in combats in the air had an individual interest which had been wanting in warfare for 700 years. They even recalled the legends of King Arthur, and the contest of William of Scotland and Saladin, described by Sir Walter Scott in "The Talisman." And they had the added interest which came from the reflection that they took

place when the machines were rushing at the rate of 80 or 100 miles an hour at perhaps a thousand feet above the ground. There was nothing in fiction so inspiring to the imagination as these thrilling dramas of courage and dexterity fought in the air without spectators. Therefore it was impossible to speak too highly or with too much respect of the gallantry of the Royal Flying Corps. But it was ungenerous to those who provided the machines to assume that all the credit was due to the gallantry of the aviators and nothing to the efficiency of the machines. The machines were marvels of finish and ingenuity, and of the resources of mechanical ability. He was persuaded, therefore, that not only did we do more than the Germans in this matter, but that there was nothing that the Germans could do that we could not do also. He did not say that there was no occasion for improvement or opportunity for criticism, but, taking all considerations into account, our Royal Flying Corps was the most efficient in the world.

Mr. Bonar Law, after remarking that Lord Hugh Cecil's speech had added that element of common sense which had not always been conspicuous in the air debates, said: The Prime Minister has asked me, as a member of the War Council which is responsible for the decision the Government have taken in this matter, to take part in this debate this afternoon, and my chief purpose is, of course, to give the House as clearly as I can the reasons—and we thought they were weighty reasons—that brought us to the conclusion that on the whole the plan on which we had decided was the best. But before dealing with that, I should like to say a few words about the kind of criticism of our air service generally, of which we have not heard so much so far this afternoon, but of which I have listened to a great deal in the past. On the last debate, in the few remarks which I made then, I said that after the examination I had given to the subject the conclusion to which I came was that the service was infinitely better than I expected. That impression remains on my mind now more strongly than ever, and I think it is confirmed by the incident referred to by my right hon. friend opposite, and also by my right hon. friend near me—the decision of the hon. member for East Herts in regard to the Commission of Inquiry which was set up to meet in the main his charges.

As regards the inquiry, the right hon. gentleman said something with which I do not agree. It is quite obvious the Government did not wish an inquiry; its object was to avoid it, in view of the fact that it would occupy time which could better be devoted to other work. What was the justification for granting it? It was that a member of this House, with all the responsibility of being a member of this House, made charges which implied that the men in charge of this service, and at the head of it, were, through criminal indifference and negligence and incapacity, killing men. Just think what the fathers of these boys would think when they heard of their deaths, and found it stated on that kind of authority, and no strong attempt made to disprove it, that some lives had been thrown away! I think it is something which the Government, in justice to the men who are responsible for this service, were right in doing. That kind of charge can be made in this House, as everybody knows, without the possibility of answering it. You cannot go into the details. The hon. member was offered the opportunity of going before a judicial tribunal, which would be trusted, I venture to say, by every business man in the country or in this House with sifting carefully and impartially any evidence, technical or other, brought before it. But the hon. gentleman declines to proceed further. Perhaps he is right. That depends entirely on the badness of his case. But it must be a very bad case indeed if it would not be in a better position after going before that Court of Inquiry than it is now.

In judging as to the quality of our air service, it all depends really on the standard which is laid down. If what anyone has in his mind is the best possible service which under the best conditions we could have, then obviously our service leaves a great deal to be desired. But if the standard is a comparison either with our enemy or with any of our Allies, then I am prepared to say, as my noble friend said just now, that our service is unquestionably far better than that of the enemy, and as I believe equal—I believe it is more than equal—to that of any of the combatants engaged in the war. From the beginning of the war we had a great superiority in the air. That has continued down to the present moment, but at the end of last year, or the beginning of this year, for the first time our airmen, who had hitherto made reconnaissances with comparative impunity, hardly ever being attacked, suddenly found that these Fokker machines were waiting for them, and we had heavy casualties. It is perfectly true that the men who were doing reconnaissance work were on inferior machines to the best German machines. Though it is not the intention of those who direct the air service that men on that kind of machine should fight, yet you could not prevent them from fighting. They tucked up their wireless and went for the enemy wherever they found him. The result was that we had a considerable number of casualties.

There never was a time in this war when the Germans had a machine which was better than any of our machines, and had not a machine which was worse than the worst of ours. That is the position. The difficulty which faced us—that the Germans were waiting for our men on these slow machines—was not got over by suddenly inventing new machines. It was got over by our sending other machines, fighting machines, to escort them. Reconnaissance work is done by us with a frequency and regularity of success which is not even attempted by the Germans. The truth is our aeroplanes crossed the German lines oftener than they crossed ours. I have had taken out a return of all those combats which took place between July 27th and May 4th. Of course there were many casualties that were not the result of real combats. Of these combats there were 478. Of these, 63 only took place on the British side of the line, and in these 13 German machines were brought down and not a single British machine at all. Of course we lost in fights on the other side of the line, and over the trenches a large number of machines and men. But we do not know what the enemy lost. These figures show the truth of the statement I made to the House that we do use the Air Service for military purposes to a far greater extent than the enemy.

The next kind of charge is in connection with the machines. It is obvious that if you compare one type of machine with an entirely different type it is easy to make out a case that we are entirely out-classed. This reconnaissance work is done with a slower machine, and the fact that they have wireless and photographic apparatus makes it a necessity that they must be slower than the machines which are doing nothing but fighting. These machines then are slower. But all that talk about Fokker machines being superior to any of ours was absolutely untrue at the time it was made. Fokker machines have been captured, and one of them is being used regularly by our airmen. It is a fact, I am told, that we have machines of at least two types which are distinctly superior from every point of view to the Fokker, and there are other types which are at least equal. All this idea that we are behind is wrong.

It would be well for the House to realise to what extent this service has grown. I cannot obviously give the figure, but I will point out two things. In the first place to enable the service to grow, you have to have simultaneously aeroplanes, parts of engines, and mechanics and pilots. They all have to be kept going simultaneously. To train pilots alone was difficult. There was a great temptation all through the war to send the largest number of trained pilots to the front, but to have done that would have prevented you from developing the pilots here at home. The result of reversing the process and of making sure that you are training pilots here is that now we are turning out every month a larger number of trained pilots than the total number that was available from every source when war broke out. If you defend a force in this way it seems to imply that you are perfectly satisfied. That does not follow. All I wish the House to realise is that the impression which has been sedulously created that the service has been muddled throughout is entirely wrong. If you wish to find mistakes in connection with the carrying on of the war I am certain that it is not in the Air Service that the greatest number of these mistakes will be found.

I come to the proposal the Government has to put before the House. In considering what should be done we had three alternatives only before us. One was, without changing the two services, to do our best to develop them on their present lines. The second was to appoint a fully-fledged Air Minister. The third was, seeing that there is a joint service, to try to get it used jointly by means of a joint board which would get the best out of both. There was a good deal to be said in the middle of the war for adopting the first course, and trying to develop more rapidly on the present lines. In this connection what has happened in France should be very instructive to us, and it is not encouraging. Before the war, in France the Air Service was entirely in the hands of the War Office—in the hands of Colonel, now General, Herchauer.

A year before the war a very strong agitation took place in the French Press, and a large part of it was due to the dissatisfaction felt with him by the makers of aeroplanes. Owing to that agitation he had to give up his work. When the war broke out he was called back and again took over his old duties. That went on until September of last year. Again an agitation was raised—just the kind we now have about the air muddle and all the rest of it—and the agitation always became the most effective when there were Zeppelin raids. He was driven out of his post once more. Now the French Press, at least part of it, has had its way. They appointed a full-blown Air Minister, an able man, M. Bismard. He appointed a committee consisting entirely of experts. That lasted for exactly five months. Another Zeppelin raid came, and the attack began all over again. The Air Minister has been turned out, and they have reverted to the same position in which they were at the beginning of the war. That is not an encouraging example.

I do not suggest that the French service did not go on while all

that was happening, but it cannot be good to be always pulling up a plant by its roots. The lesson there has been for us to develop on present lines. There is this difference between the French and ourselves. Their service is not a joint service, but is largely an Army service. An arrangement which is perfectly good for France with its one service becomes not so good and perhaps bad when you are dealing with two services which ought to work together in the best possible way.

We rejected the proposal of leaving the matter as it is. The next question is that of an Air Ministry. My right hon. friend said that the Government alone were standing in the way. As I listened to his speech I could not help wondering what terrible thing had happened in the five months since he left the Government. I think the air problem was there then. It has not arisen since. I would like to say for myself, and I believe for the whole Government, that we had no prejudice whatever against an Air Minister. If we had announced an Air Minister it would have been what the House of Commons and the Press would have liked. There is no earthly reason why we should not have done as much as we are doing if we had thought it as good for the service of the country. We did not. Again I do not really understand my right hon. friend. I do not want to make a controversial speech; I want rather to try to let the House understand the motives which actuated the Government in the proposals they have put forward. I really do not understand my right hon. friend. He is in favour of an Air Ministry. Did that never occur to him as a good thing earlier, when he himself was a member of the Government?

Colonel Churchill: I put put before the Prime Minister, early in June of last year, some proposals of this character.

Mr. Bonar Law: If I remember correctly the right hon. gentleman had left the Admiralty.

Colonel Churchill: Oh, yes.

Mr. Bonar Law: I really do not understand my right hon. friend. If there was one man who, if an Air Ministry was the right thing, had the power to establish it, it was my right hon. friend. When the war broke out every department was over head and ears in work. It is quite true, as my right hon. friend said, that Lord Kitchener was glad to leave the defence of London to him because they were all overworked. If, at that time, he had thought an Air Ministry was the right way of dealing with the matter, he would have had no difficulty in carrying the proposal out. When my right hon. friend was at the Admiralty there was a Joint Air Committee, and the two branches of the Air Service had but one name—the Royal Flying Corps, with a naval and military wing. When the war broke out my right hon. friend did what probably, on the whole, he was justified in doing. He had one department in his own hands, and he showed great energy in developing it in the best possible and the most practicable way. But instead of saying that an Air Ministry with these two services was the right solution, he for the first time gave a new, special name to the naval wing of the Royal Flying Corps, and instead of making it a joint service, so far as his own action was concerned, he separated the two services more than ever they had been separated before.

Colonel Churchill: I have not refreshed my memory, but I think the Royal Naval Air Service was a name started before the war.

Mr. Bonar Law: I have not looked it up, either, but I think I am right. Every member of the House must realise that there are great objections in the middle of a war to starting a new service and uprooting everything that has been done. Even though the advantages will be greater later on, the Service will suffer for the time being. In this war we cannot afford to let it suffer even for the time being.

There is no analogy between this case and the Ministry of Munitions. Though the Ministry of Munitions had difficulties enough to contend with, it was a simple problem compared with this. It was taking away from the War Office one branch of War Office work. The business of the Ministry of Munitions is to supply material. It has not to use that material, and it has not to direct the policy and the way in which that material is used. For a long time to come, however rapidly you develop the Air Service, the great bulk of the work in the air will be done in connection either with the Navy or with the Army. Now surely, and this is a very strong reason in the middle of a war, it is not very wise to upset all that, to take away the training of the men, for instance, from the Army, who are doing it well, and put down something new in the belief that later on you will get better results.

What is the alternative? I am not defending this proposal from a brief without believing in it myself. This seemed to me from the first the best method during the war of trying to deal with this question. You have two services dealing largely with the same materials, and, to some extent, in the same way. Is it not the obviously right course to try to get these departments to work together?

So far as I am concerned, even if I believed that an Air Ministry

was the right thing in the end—and I think an Air Ministry may come out of it—I should say the right way to get it is to make some arrangement of this kind, to let it grow, and gradually let it absorb more and more the work of the Air Services. What are the grounds of criticism against the present system? With two services there is likely to be overlapping and competition in buying material. This Board has complete power to put a stop to that. Let me deal with the kind of criticism the right hon. gentleman made against the Board. That there will not be voting at this Council he thinks a wonderful thing. That is the system on which every one of the Government departments is carried on now. The head of the department represents the views of the department. The idea that the President of this Board will take one view, and that both the services will take a different view is an absurdity. What will happen very likely is that one service will take one view and the other another, and both of them will be overruled by the President.

Then we come to what my right hon. friend says about the President having power only to make recommendations. He says Lord Curzon, as a member of the Cabinet, could make recommendations now, and that he has a free hand to bring them to the War Council. This new Board is a joint Board of the two services—that is the essence of it—with an outside President, who is a Cabinet Minister, who shall be expected to go into all air problems and to make recommendations to the two services. Then what follows? If these recommendations are not carried out the President has the right of at once taking them to the War Council, who will give a decision, which decision will be final. It is quite obvious, I think, that if the two departments have made up their minds that they regard this Board as the fifth wheel to the coach, as something which ought not to be there, as an enemy, this scheme cannot succeed. But the essence of it is that the Board in essentials represents the two services. It has on it the men who are best qualified to speak for those services in their department, and surely it is not unreasonable to hope that when these subjects are discussed by such a Board they will look upon the decision as the real method of carrying out their policy, and that, more and more, this new body will have allocated to it all the duties, so far as they can be performed, even of an Air Ministry.

The next kind of criticism relates to the allocation of machines. That is very important, too. So long as it is the case that neither department can get as many machines as it wants they struggle with each other to get them. That does not mean that there is ill-will between the two departments, but each knows it can make good use of the machines, and each tries to get them. How is that to be settled? Surely the obvious way is by having a Board like this with an impartial arbitrator who shall say "The Navy needs these, the Army needs those, and they shall have them unless the War Council decides it is a bad arrangement and it is reversed." My right hon. friend says the War Council, because the First Lord of the Admiralty and the Secretary of State for War are on it, will overrule this Board. Both the First Lord of the Admiralty and the Secretary of State for War have approved of the Committee, and the fact that they have approved of it means that so far as they are concerned they intend to make it a success. In addition to that, the War Council would not agree to such a proposal unless they intended to do what they could to make it a success. Therefore you may start certainly with this presupposition, that the sympathies of the War Council will be with the new Board.

Then another kind of criticism—and it is a very strong one—is in regard to services which are neither naval nor military—joint services, what for the sake of a short phrase I may call long-distance arrangements. Perhaps it is a very bad arrangement that each department should be planning for themselves independently of the other, and one of the instructions which are given to the Board specially states that they are to devote themselves to considering that class of work. In other words, their duty will be to assist in every possible manner in organising these joint operations and making the best recommendations for carrying them out. If hon. members will look at the difficulties of the present position, and will ask themselves what better plan is available, and when they make criticism about this, ask themselves would not the same criticism apply to an Air Ministry, or any other method adopted, I am satisfied they will come to the conclusion that this plan has two great merits—it has the possibility, and I hope more than that, of developing the air service in a way it has never been developed before, and it has this further advantage, that it does not interrupt the work which has been going on now, but will speed it up at the worst, and make it better than it is at present.

It is perfectly true that not only imagination, but a keen interest in a subject like this is required to develop it in the best and most rapid way. I have thought from the beginning that in the nature of the case neither the First Lord of the Admiralty nor the Secretary of State for War could possibly devote their minds to a subject like this in a way in which it could be done by a man who had no other

large duty to discharge. We have got in this arrangement a man whose duty it is to do it, and I think the best answer to the kind of criticism that has been made, that the Board will have no power, is that the man who has accepted the presidency of the Board has done it with the belief that he can do good work in it, and no member of the Cabinet or any one of my acquaintance would have been less likely than Lord Curzon to undertake a position of such great responsibility if he thought he had not the power necessary to enable him to make a success of it. I ask the House, what are the qualities they would like to see in a man in that position? Certainly I should like to see a knowledge of the subject, but I do not think I would put that first. If you could get a man with other qualities who was also an expert it would be the best arrangement. I know that is not agreed to by everyone, for our whole political system rests on the assumption that the man at the head of every department must be an amateur in connection with it. It may be said this is a board of amateurs. So it is. But the very first thing Lord Curzon will do will be to make use of the best expert advice he can get and in the best way it can be utilised. But what, apart from expert knowledge, are the qualities needed? I think the ones I would put first are brains, driving force, administrative capacity, and administrative experience. I think these are the qualities which will be most useful, for the result of them will be that this service will be treated as something by itself, as something to be fostered by itself, to be pushed forward with the utmost rapidity. Another quality is personality. There are different degrees of influence even in the Cabinet—I am sure I am not coming under the Defence of the Realm Regulations in saying this—and, therefore, it is essential that a man should have a certain amount of personality. I do not think there is anyone who knows Lord Curzon who will deny that he has a fair share of all the qualifications I have mentioned. I cannot possibly imagine any motive other than public spirit, and a desire to do some service to his country at this time, which would induce either Lord Curzon or any one else to undertake this job. The very kind of criticism which has been directed against him, showing the difficulties of the appointment, would be enough to deter most men from it. We can judge really of these things by ourselves. Judging by myself I say I can imagine no office under the Government which I would be less willing to undertake than the post which Lord Curzon has accepted. That being so, I do not think it is asking too much of the House or of the country to say that they should recognise these facts, and give Lord Curzon their good will in starting on his arduous enterprise.

Mr. Billing regretted that a personal note had been introduced into the debate. The Under-Secretary for War had seen fit to refer in a very sneering and exceedingly unpleasant manner to his presence, suggesting he had come to the House unwanted. He could understand from the extraordinary disorder which took place whenever he rose to speak, sometimes in and sometimes out of order, that the right hon. gentleman had at least the sympathy of

the House in making his statements. But he did not think [it became even a very junior officer of the Government to make such a statement in that House. He had come to the House for a definite purpose, and it was his intention to carry that purpose out. No slur or insults would make him swerve from his path. It had been said that either from cowardice or some other cause he had refused to appear before the Committee recently appointed. No right-thinking man would suppose it necessary to discuss such a charge. He alleged that the object was to trip him up in the Committee on questions of evidence, and said that if he were offered the same advantages in presenting his case as the Committee had he would not mind considering the matter. He disclaimed a knowledge of evidence, for although he had been a student for the Bar he never allowed the matter to conclude. Lawyer politicians had brought discredit on the House. They found nothing but committees full of lawyers and jobs everywhere. The lawyer politicians had seized upon the more or less grammatical* word "murder." He did not withdraw what he meant when he used the word. Referring to some points mentioned by Lord Hugh Cecil, Mr. Billing said that the most essential thing in an aeroplane was speed in climbing. If you had speed in climbing you always had the advantage, although the machine might be faster. If you had the climb in hand you could generally beat the aeroplane you were engaged with.

Sir A. Markham: You have never done any flying in the face of the enemy.

Mr. Billing then went on to mention R.A.F. engines, of which he said the cylinders were constantly cracking and constantly breaking. He asked whether it was not criminal negligence to send men up with engines with faulty cylinders. It was not encouraging to a man to know that he ran a risk of being roasted in the air. Referring to the Committee, he suggested that it was packed—it was the old, old story. At his election a violent electioneering trick was tried, and now he was to be discredited. He had endeavoured in the interests of the service not to be ignored in the House of Commons. Reforms had been brought about in a few months which justified anything he had said. The department had been completely reconstructed. The Government tried to sidetrack him by setting up a comic committee of able lawyers, and they expected him to appear before these legal luminaries without counsel, and with no prospect of getting satisfaction whatever. If the Government thought that by setting up legal Aunt Sallies of that description they were going to alter his determination they were profoundly mistaken. But if they cared to have a committee consisting of a Judge and 12 common or garden mechanics who knew their job and were not looking for kudos out of it, he would go before it with pleasure and prove his case.

At this stage of the hon. member's speech attention was called to the fact that there were not 40 members present, and

The House was counted out at five minutes past eight o'clock.

* This is the word given in the official report. The *Times* reports it as "dramatic."

QUESTIONS IN PARLIAMENT.

Armoured Car Division Transfers.

IN reply to Mr. Ashley, who, on May 17th, asked as to the seniority of certain officers belonging to the late Armoured Car Division of the Royal Naval Air Service who have recently been transferred back to the Royal Naval Air Service, Dr. Macnamara said that officers who have transferred for general service in the Royal Naval Air Service keep their original seniority. It is only those who enter for flying who are graded with the seniority of entry. In this respect they are treated exactly the same as officers of the Royal Navy who become flying officers.

Mr. Ashley further asked if they got any advantage from the time they had served with the armoured cars.

Dr. Macnamara replied: If they enter for the general service, yes; if for flying, no; then they are graded from the date of entry. That is the case also with the Royal Naval officers entering the Flying Service.

The R.F.C. Inquiry.

ON Monday, Commander Bellairs suggested that, in the public interest, the R.F.C. Committee which was appointed to investigate the charges made by the hon. member for East Herts should be instructed to present an interim report, and asked whether the Government would so amend the terms of reference as to empower the Committee to decide if it would be in the public interest to proceed further with its investigations during this critical stage of the war. Mr. Asquith replied: The Committee are fully alive to the desirability of saving the time of General Henderson and others as far as this can be done without prejudice to the inquiry. I understand that there are other charges, covering to some extent the same ground as those made by the hon. member for East Herts, and all

these matters must receive full investigation. While the submission of an interim report is not impossible, it is not considered likely that by that means any appreciable saving of the time of Sir D. Henderson or of the officials or officers of his department would be effected. The terms of reference do not, I think, require any amendment, and, now that the inquiry has been started, it is not intended that it should be concluded until all the charges made have been investigated.

Mr. Billing asked the Prime Minister whether, in view of the fact that the Royal Flying Corps Committee had proved a farce, the right hon. gentleman would give the House an assurance that a properly constituted committee would be appointed to investigate the charges which had been made.

Mr. Asquith: A properly constituted committee has been appointed, and those who have charges should make them before it.

A Zeppelin Raid Incident.

IN the House of Commons, on May 16th, Sir A. Markham asked whether the War Office had any information that telegraph and telephone wires were cut in the vicinity of a town on the East Coast recently visited by Zeppelins?

Mr. Tennant stated that he did not confirm or contradict the suggestion contained in the question. He simply stated it was not in the public interest to give any information on the subject.

Sir A. Markham further asked, when these wires were actually cut between headquarters, was it not in the public interest that the public should know that there were alien enemies living in the district?

Mr. Tennant thought it was very undesirable to make a public comment of that kind.

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

British.

General Headquarters, May 17th.

"Yesterday the fine weather favoured aerial activity, and twenty-seven combats in the air took place. An Albatros was attacked, driven down, and wrecked near Lille. Another was driven down north of Vitry in a damaged condition.

"A third, attacked by one of our scouts, was seen to turn upside down near the ground.

"One of our reconnaissance machines failed to return. It was seen to land under control in hostile territory. One of our scout aeroplanes is missing.

"A great deal of successful artillery and photographic work was accomplished."

General Headquarters, May 18th.

"Yesterday there was again considerable aerial work. Thirteen combats took place. One hostile machine is believed to have been accounted for, as it was last seen descending vertically."

War Office, May 19th.

"The General Officer Commanding-in-Chief in Egypt reports that our ships, aeroplanes, and seaplanes successfully bombarded El Arish, an important post on the enemy line of communications from Syria to Egypt, on the morning of May 18th.

"The ships bombarded the fort to the south-west of the town, and are believed to have reduced it to ruins.

"The aerial attack was divided into two phases.

"The seaplanes opened the bombardment, being followed later by aeroplanes. The latter were given orders to engage any hostile machines and to devote special attention to enemy troops and camp.

"A column of troops about 1,000 strong were seen south of the town on the march, and three bombs exploded amongst them. All camps were effectively bombarded.

"All ships and machines returned safely.

"The weather conditions during the past week have been abnormal, and intense heat has been experienced both by day and night. Under these conditions the health of the troops remains good."

General Headquarters, May 19th.

"In the air there was considerable activity. One hostile machine was driven down behind the German lines."

General Headquarters, May 20th.

"Yesterday the weather again favoured flying, and much successful work was done. There were thirteen combats in the air, in the course of which two hostile machines were brought down behind the enemy's lines."

General Headquarters, May 21st.

"Yesterday our aeroplanes had several successful encounters with hostile aircraft. An Aviatik fell on fire into some trees near Adinifer Wood, in the enemy's lines, one of its occupants being seen to fall out. Another hostile machine fell in flames near Contalmaison, also in the enemy's lines, after an encounter with one of our scouts. A third crashed to earth in our lines near Maricourt. One of our aeroplanes fell in the enemy's lines. Much successful artillery work was accomplished early this morning. A hostile machine landed undamaged in our lines. The pilot and observer are prisoners."

General Headquarters, May 22nd.

"Yesterday the enemy aeroplanes were active. Many were engaged by our machines, and eight were driven off, though none were brought down. During the day one of our reconnaissance machines was forced to land in the enemy's lines."

French.

Paris, May 17th. Afternoon.

"During the night thirteen of our bombarding aeroplanes dropped twenty-four bombs on the bivouacs in the region of Damvillersville, before Chaumont, eleven on the railway station of Briouilles and Clery, fourteen on the cantonments at Nantillois and Romagne, and twenty-one on the station of Aprémont and on Grand Pré. Several fires were noticed.

"One of our pilots brought down a German machine to the north of Vic-sur-Aisne. The two wings of the enemy machine fell off during its fall.

"In the same night another of our squadrons dropped forty bombs on the hangars of Frescaty, twenty on the stations of Metz and Ars, forty on the station of Arnaville, and thirty on the railway lines and stations between Metz and Thionville."

Paris, May 17th. Evening.

"During the day one of our pilots, in an aerial fight, brought down a German aeroplane, which fell to the north-west of Rezonville. Another enemy aeroplane, riddled by the machine-gun fire of one of our machines, fell in the region of the Ban de Sapt.

"To-day one of our squadrons bombarded the station of Metz Sablons, on which it dropped 25 heavy shells.

"In the region of Verdun the activity of the aviators was particularly marked, 33 actions being fought. Three German aeroplanes were felled. All our machines returned safely."

Paris, May 18th. Afternoon.

"During the night enemy aeroplanes dropped several bombs in the region of Lunéville, Epinal, and Belfort, causing some unimportant damage to property. On the night of the 16th-17th our aeroplanes effected numerous bombardments of the front to the north of Verdun.

"Fifteen bombs of large calibre were dropped on an important munitions dépôt between Raucourt and Arrocourt (10 kilometres south of Sedan), five on the railway station of Sedan, where an outbreak of fire was noticed, and fifteen on a munitions dépôt near Dazannes. In the same night two of our machines dropped twenty-four bombs on the railway station of Metz-Sablons."

Paris, May 19th. Afternoon.

"Enemy aeroplanes last night dropped three bombs on Gerardmer, doing only slight material damage. A German aeroplane was brought down yesterday by one of our pilots near Sainte Ménéchould. The enemy aviators were captured. Sub-Lieut. Navarre brought down his tenth German aeroplane. The enemy machine fell and was smashed to pieces near Bolante (Argonne)."

Paris, May 19th. Evening.

"During the night of May 18th-19th our aeroplanes carried out numerous bombardment operations. The aerodrome of Murhange, the stations of Metz-Sablons, Arnaville, Briouilles, Stenay, Sedan and Etain, and the bivouacs of Montfaucon and Azannes were bombarded with numerous projectiles."

Paris, May 20th. Afternoon.

"Yesterday Sub-Lieutenant Navarre brought down his eleventh German aeroplane. The machine fell in our lines at Chattancourt. The two enemy aviators were captured.

"During the day another German aeroplane attacked by Sub-Lieutenant Gesser fell and was dashed to pieces in the Forges Wood. This is the fifth aeroplane brought down by this pilot. Three other German aeroplanes, which were fired upon by our machines with quick-firing guns, were seen to fall vertically, nose down, in their own lines.

"Last night some German aeroplanes dropped a large number of bombs on Dunkirk and Bergues. At Dunkirk a woman was killed and twenty-seven persons were injured. At Bergues there were five killed and eleven wounded.

"As a reprisal a French air-squadron went up immediately to bombard the enemy cantonments at Wyfweg, Zarren, and Handzaeme, while a Belgian squadron bombarded the aviation centre at Ghistelles. The majority of the bombs found their mark."

Paris, May 20th. Evening.

"One of our motor-guns brought down a German aeroplane in the region of Verdun."

Paris, May 21st. Afternoon.

"An enemy air raid in the region of Baccarat, Epinal, and Vessul caused only insignificant material damage. Four persons were slightly injured.

"During last night our bombarding aeroplanes dropped numerous bombs on the military establishments at Thionville, Etain, and Spincourt, and on the bivouacs in the region of Azannes and Damvillers. A bombardment of the shunting station of Lumes caused the precipitate departure of trains, and an extensive conflagration among the station buildings.

"During an aerial combat between four of our machines and three Fokkers, over the forest of Bezanges, one of the enemy aeroplanes was brought down. Another Fokker attacked by one of our pilots was forced to come down in his own lines under the fire of our batteries, which destroyed the machine."

Paris, May 21st. Evening.

"The German aeroplanes have carried out two bombardments since yesterday in the region of Dunkirk. About twenty bombs dropped in the evening of May 20th killed four persons and wounded fifteen others. About noon to-day another enemy squadron dropped about 100 bombs on the suburbs of Dunkirk. Two soldiers and a child were killed, and twenty persons were wounded. Allied aeroplanes went in pursuit of the enemy machines, and succeeded in bringing down two just as they were re-entering their lines.

"Immediately after the first bombardments a group of 53 French, British, and Belgian aeroplanes flew over the German cantonments of Wyfweg and Ghistelles, on which 250 bombs were dropped.

"During the day Belfort received fifteen bombs dropped by German aeroplanes. The material damage was insignificant."

Paris, May 22nd. Afternoon.

"In the region of Verdun our aeroplanes attacked German captive balloons. Six of these balloons were brought down in flames."

"In the course of an aerial fight one of our pilots brought down a German aeroplane in the region of Eparges. Two other enemy machines attacked by our aircraft fell and were wrecked, one in the enemy's lines, near Liancourt-Fosse, near De Roye, the other in our lines at Fontenoy, west of Soissons."

"This morning enemy aeroplanes dropped bombs on Dunkirk."

"During the night of the 20th and 21st several operations were carried out by our bombarding squadrons. Bombs were dropped with success on the railway stations of Metz-Sablons, Avricourt, and Roye, on the munition depôts at Blache and Chapelotte, the bivouacs in the region of Azanne, and on the village of Jemietz, where a high commander's post is established."

"Moreover, two of our airships plentifully bombarded the railway stations and the permanent ways at Brioules and Dun."

Paris, May 22nd. Evening.

"This morning one of our battle aeroplanes went in pursuit of a German machine which had just bombarded Dunkirk, reached it, and brought it down at Vizele (north-east of Cassel)."

"In Alsace two enemy aeroplanes were brought down in an air fight. One fell in our lines at Senthem (south of Thann), the other in the Bonhomme region not far from our trenches."

Belgian.

Havre, May 21st.

"During an aerial combat off Nieuport a Belgian aviator, Captain Jaquet, and Pilot Lieutenant Robin defeated a German aeroplane, which fell into the sea."

Italian.

Rome, May 19th.

"Enemy aeroplane raids are reported at various points in the Venetian Plain. We had one killed and one wounded, and some slight damage was done. Our aeroplanes bombarded enemy parks and camps in the Folgaria zone (north-east of Rovereto), returning unharmed though having been exposed to the fire of numerous batteries."

Rome, May 20th.

"A big aerial raid was attempted by the enemy at daybreak yesterday in the Venetian plain. There were slight casualties at Cividale and Murano, but almost no material damage was done. The enemy squadrons pushed on towards Udine and Casarsa, but were driven back by the prompt intervention of our aviators."

Rome, May 21st.

"Enemy aircraft dropped some bombs on Vicenza, Valdagno, Feltre and Fonzaso. Two persons were killed and four injured. The damage done was very slight."

German.

Berlin, May 17th.

"Yesterday afternoon some British naval forces appeared off the coast of Flanders. Some German warships, accompanied by patrol boats, left the harbour and went to meet them. A short fight at long range ensued, during which one of the German aeroplanes dropped bombs on an enemy cruiser, which was observed to be hit near the conning tower."

"On both sides there was vigorous aerial activity. Lieutenant Immelmann shot down his fifteenth aeroplane west of Douai. A British aeroplane was brought down in an air fight near Fournes. The occupants, two British officers, both unwounded, were taken prisoners."

Berlin, May 19th.

"The activity of the aviators was also great on both sides."



An Italian Record.

At the Mirafiori aerodrome on May 17th, Victor Louvet on a twin-engined military machine, with a passenger, succeeded in getting up to 20,460 ft., claimed as a new world's record for pilot and passenger. The previous record was Lieut. Bier's 6,170 metres.

More French Records.

On May 19th Flight Lieut. Poulet made a new height record for pilot and two passengers by going up to 18,304 feet, while he subsequently took three passengers to 19,226 feet. The previous records were: Lieut. Bier (Austria), pilot and two passengers, 17,815 feet, and Sabatling (German), pilot and three, 17,224 feet.

The French Fokker Fighter.

Writing to the *Daily Express* from Paris last week, Mr. H. J. Greenwall states that the new fast machine produced in France is a biplane built by M. Blériot, and known as the Spad—a word derived from the initial letters of "*Société pour l'aviation et dérivés*." The machine is said to climb rapidly and smoothly, and to attain a speed of over 125 miles per hour.

"First Lieutenant Boelke brought down his sixteenth enemy aeroplane, to the south of Ripont."

"The railway station of Lunéville, as well as the railway station, airship sheds, and barracks of Epinal, were bombed."

"An aeroplane squadron attacked the enemy camps near Kukus, Causica, Mihalova, and Salonica."

Berlin, May 20th.

"Five enemy aeroplanes were brought down, one by our infantry fire to the south-east of Vailly, the other four in aerial battles near Aubreville, on the southern edge of the Hesse Forest, near Avocourt, and due east of Verdun."

"Our aviators attacked enemy ships on the coast of Flanders, enemy shelters, aerodrome and railway stations near Dunkirk, St. Pol, Dixmude, Poperinghe, Amiens, Chalons, and Suippes with good results."

"In the neighbourhood of Smorgen a German aviator brought down a Russian aeroplane after an aerial battle."

Berlin, May 21st.

"Near Ostend an enemy aeroplane was shot down by our anti-aircraft guns, and fell into the sea. Four other machines were brought down in the course of aerial fighting, two of them within our lines near Lorgies, north of La Bassée and south of Chateau Salins, and the others behind the enemy's front at the Bourrue Wood, west of the Meuse and east of Verdun."

"Our aeroplane squadrons again hotly bombarded Dunkirk from the east during the night."

Berlin, May 22nd.

"Our air squadrons yesterday afternoon made repeated attacks on the concentration harbour of Dunkirk with visible success. An enemy biplane, after a fight, fell into the sea."

"Four more aeroplanes were placed *hors de combat* within our lines—namely, near Wervicq, near Noyon, near Maucourt (east of the Meuse), and north-east of Chateau Salins. The last machine was brought down by Lieutenant Wintgens, being his fourth success."

First Lieutenant Boelke shot down his 17th and 18th enemy machines south of Avocourt and south of the Mort Homme. In recognition of his performances the Kaiser has promoted First Lieutenant Boelke to the rank of captain."

Austrian.

Vienna, May 16th.

"Early to-day enemy airmen dropped bombs on Kostanjevitza and on several hospital buildings, which were clearly marked, without doing any damage."

"In the Southern Tirol an enemy aeroplane was shot down."

Vienna, May 17th.

"A strong squadron of our military and naval aeroplanes early yesterday morning and the night before bombarded the railway stations and other buildings of Venice, Mestre, Cormons, Cividale, Udine, and Treviso. Everywhere, especially at Udine, where some thirty enemy guns opened an unsuccessful fire, the great effect of our bombardment was observed."

Vienna, May 19th.

"One of our naval air squadrons successfully bombarded the railway precincts at San Giorgia di Nogara and the enemy seaplane harbour near Grado."

Vienna, May 20th.

"Our airman dropped bombs on the railway stations at Peri Vicenza, Cittadella, Castelfranco, Treviso, Casera, and Cividale, and also on hostile seaplane stations."

Turkish.

Constantinople, May 21st.

"Two enemy aeroplanes coming from Tenedos flew over the Dardanelles and were driven off by our fire."



A New German Battleplane!

Via Salonica and Paris comes a "suspect" report of the appearance on the Riga front of a new German battleplane, which is said to be painted entirely black, of considerable size, with no resemblance to any known German type, with a speed of 112 m.p.h. It is said to fly regardless of wind and weather, and never at an altitude of less than 10,800 feet.

Death of Boillot.

AFTER a brief but glorious career in the French flying service Georges Boillot, the famous driver of Peugeot racing cars, has gone to his last account. He was officially reported on Sunday to be missing, and it is stated that he was shot down, in a fight with five Fokkers, one of which he succeeded in bringing down. Up to the end of last year he was engaged in driving French generals, but then at his own request he was transferred to the flying service. He was mentioned in Army Orders last March, and was given the military medal, while only as recently as May 15th the Legion of Honour was conferred upon him for his services.

MANY HAPPY RETURNS OF THE DAY.

It was exactly a year ago last Friday that the Whitehead Aircraft Company, of Richmond, started with a mere handful of men and money to build aircraft for the great war. During that twelve months the factory has progressed by leaps and bounds, so that by the end of the year it has firmly established itself amongst the foremost in the aircraft industry. It was only natural, therefore, that the first anniversary of this promising youngster should be well celebrated, and so, at the invitation of Mr. J. A. Whitehead, over 300 "Whitecraft Boys and Girls" from the factory were entertained by an outing and luncheon at Southend last Saturday. In providing for his guests Mr. Whitehead displayed the same energy and thoroughness which has been the prime mover in the rapid progress of the W.A.C. As Mr. Micawber would have said: "Result, happiness!" Indeed, they would have been poor specimens of humanity that did not enjoy themselves that day.

Leaving Richmond at 8.5 a.m. (real time) the party was conveyed in a special corridor train which arrived at its destination punctually to time after a pleasant run lasting one hour fifty minutes. On the way to the "Ship" Hotel, where some welcome—for it was by now pretty sultry—refreshment awaited us, we came upon a large hospital for wounded Tommies, many of whom watched us in wonder from the balconies. Here a halt was made whilst Mr. Whitehead distributed a large number of cigarettes amongst them, with the Whitehead Aircraft Company's best wishes. Cheers and counter cheers having been given we proceeded on our way. Before luncheon chais-a-bancs were provided for those who wished to have a drive round to see the sights. Then followed the excellent luncheon, presided over by the Deputy-Mayor of Southend, Alderman J. Francis, the orchestra that played selections of popular airs the meanwhile being much appreciated by the guests. At the conclusion of the lunch, His Majesty the King was toasted, and the Deputy-Mayor made a short speech, saying that Southend was proud to welcome so many workers from another part who were doing so much to help win the war. He added that although he had only known Mr. Whitehead for a few minutes he felt sure that here was a man who was a model employer, a remark unanimously endorsed with great enthusiasm on the part of the guests. In responding, Mr. Whitehead said he did not propose to keep them away from the beautiful weather and enjoyment awaiting them outside by making a long speech, but he would like to thank them all for agreeing to come with him down to Southend, and not to Brighton as was originally intended, because it was at the former place he spent his early days. He pointed out that the success of the firm was mainly built up on the loyalty of the workers. Most—if not all—of the sailing and motor boats having been chartered for the occasion, immediately after lunch all set out for a most enjoyable afternoon on the water until tea time. After tea most of the guests sauntered around till it was time to depart for the station, the train leaving for home at five minutes past seven (still old time) sharp. The journey home was quick and pleasant, Richmond being reached shortly before nine o'clock, where all gave three very, very hearty cheers for Mr. and Mrs. Whitehead before dispersing, perhaps a little tired, but feeling exceedingly happy and grateful to their "Model Employer."



Fatal Accidents.

AT the inquest on Lieut. O. G. Hake, R.F.C., and Mr. Frederick G. Sumner it was stated that the aeroplane piloted by the former crashed into an old spruce tree which had apparently not been seen. One of the planes was torn off and the machine ran into a mill wall. A verdict of "Accidental Death" was returned.

An inquest was held at Dover on Lieut. C. D. Merrett, of the Australian Flying Corps, who was killed on May 16th. Capt. Lord Lucas, R.F.C., said that he was instructing the deceased in a dual-control machine and he thought Lieut. Merrett must have pulled the aeroplane's nose round causing it to lose flying speed. A verdict of "Accidental Death" was returned.

A double fatality occurred at Gosport, near Portsmouth, on the 18th inst. Lieuts. Selwyn and Bateman, of the R.F.C., went up in a military biplane, and on reaching an altitude of a 1,000 ft. the machine nose-dived into a field, not far from where it had started. Both officers, who were experienced pilots, were found to be dead.

An inquest was held on May 19th on Second-class Air Mechanic Richard Allen, R.F.C., who, when attending to a machine which was about to make an ascent, was struck by the propeller and killed. A verdict of "Accidental Death" was returned.

New War Souvenirs for Parisians.

It is reported from Paris that a captured 1915 Fokker is shortly to be exhibited in the Grand Court of the Invalides, while another forthcoming exhibit is the German ensign captured from the Zeppelin shot down at Salonica.

AFTER HOURS.

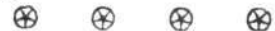
A LITTLE relaxation now and again, to ensure maximum effort in helping the country's needs, is a good investment. In fact those who have seen how the seven days a week workers have kept going—willingly, mark you—have long since had it borne in upon them that a bit of play is a necessity. Anyone who drops into one of the London houses of entertainment just now would certainly come to the conclusion, judging by the packed audiences, that the idea has been carried far away beyond the precept, to the practice stage. And what could be happier? Work is none the better for being carried out with a wry face. So let those who can spare the wherewithal—time should be available as a necessity—take their turn at one or other of the light entertainments so generously in evidence at most of the houses in town.



"SAMPLES," at the Vaudeville, is an instance of a mirth provoker—as harmless as a ladies' seminary effort, but as spontaneously full of genuine fun as anything we have ever sat out. And to see the khaki and the boys in blue there! Hardly a second seat but is filled by one or the other. Happy hits abound, and never a dull moment has a chance during an unbroken display of ten varied "samples"; and they are "assorted" at that to please a very varied audience. The other day I laughed till I cried—literally—not once but several times. If you want to make a few of our wounded heroes forget their pains, just invest in a few tickets for Harry Grattan's "sample" *revue*, and you may indeed look to being classed with the Good Samaritan. Then ask them what they think of—merely to mention one or two in a prodigious range of talent—the quaint conceits of Davy Burnaby, Gené Gerrard, Melville Gideon, the Terry Twins, Ivy St. Helier, Beatrice Lillie, Billie Carleton and Marie Blanche. Anyone who could see the burlesque boxing bout of the Terry Twins, or get through the "Music Factory" sample and the Dentist's Waiting Room scene without forgetting all their troubles for the time being, must be pretty hardened. But there is plenty to interest as well as amuse. Judging by "the House," the Vaudeville show should make glad the hearts of those behind as well as those in front of the footlights.



DELIGHTFUL music, catchy and rhythmic, with Miss Phyllis Dare, Miss Yvonne Reynolds, Miss Gracie Sinclair and Godfrey Tearle to interpret it, makes the musical play "Tina," at the Adelphi, still run to a crowded audience at every performance. Most of the fun is in the hands of W. H. Berry, which is equivalent to saying that whilst he is on the stage his humour is audibly followed by his audience with a continuous ripple of approval. "Eve," a striking number in black and white introduced in Act III, is certainly one of the quaintest scenes at present anywhere in London, whilst a couple of dances by Oyra and Dorma Leigh are in themselves worth a visit to the Adelphi. Here again it is khaki and blue everywhere. "WINGS."



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[Owing to the heavy pressure on our columns this week several regular features are held over.—ED.]

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